AN INTRODUCTORY

Clinical Lecture

ON THE

CIRCULATION OF THE BLOOD,

IN ITS BEARINGS ON PRACTICAL MEDICINE AND SURGERY GENERALLY, AND OPHTHALMIC MEDICINE AND SURGERY IN PARTICULAR.

Delivered at University College Hospital on Oct. 23rd,

BY T. WHARTON JONES, F.R.C.S., F.R.S.,

PROFESSOR OF OPHTHALMIC MEDICINE AND SURGERY IN UNIVERSITY COLLEGE, AND OPHTHALMIC SURGEON TO THE HOSPITAL.

(Concluded from page 605.)

GENTLEMEN,—In the first part of my lecture I pointed out to you what Harvey did in the discovery of the circulation of the blood, and how he did it. I also showed you what he did not do, and explained the cause of his inability to demonstrate the anatomical mechanism of the passage of the blood from the last ramifications of the arteries into the radicles of the veins.

In the present part of my lecture I have now to lay before you details respecting this mechanism, which I may observe are of the highest practical importance, to say nothing of their scientific value.

In his epistle to Paul Marquart Schlegel, of Hamburg, dated March 26th, 1651, Harvey says:—"When I perceived that the blood is transferred from the veins into the arteries through the medium of the heart by a grand mechanism and exquisite apparatus of valves, I judged that, in like manner (wherever transudation does not take place through the 'pores of the flesh') the blood is returned from the arteries to the veins '*non sine artificio quodam admirabili.*'"

The *artificium admirabile* which Harvey here conjectures to exist, it was not his fortune to see and know. It was not until after his death, we have seen, that the passage of the blood from arteries to veins through intermediate tubules, now known under the conventional name of "capillary vessels," was observed under the microscope.

Though Malpighi's observation of the capillaries in the lungs of the frog, and his conjecture that similar vessels exist elsewhere, intermediate between arteries and veins, went a great way towards elucidating the *artificium admirabile*, much still remained to be made out, both in respect to the vessels themselves—minute arteries, capillaries and venous radicles—and in respect to the corpuscles of the blood flowing in them; but the achievement of this became possible only by means of our perfected microscopes, and is therefore of modern date.

We may thus, without any unjust detraction from the great and indisputable merits of Harvey, say that whilst the pulmonary half of the circulation—that is, the flow of blood from the right side of the heart to the lungs and back from the lungs to the left side of the heart—was more or less correctly conjectured, or shall I say *understood*, long before his time, the complete mechanism of the flow of blood in the extreme vessels came to be discovered only long after.

The achievement of Harvey, let it be clearly enunciated and understood, comprised not only his great physiological demonstration, that the blood flows in a circuit through the whole body—from the heart by the arteries, and back to the heart by the veins; but also his exposition of the mechanism and functions of the heart and great arteries—an achievement the importance and value of which to practical medicine in all its branches cannot be overestimated.

Harvey denied that there is any direct inosculation between arteries and veins as was supposed. In this he was correct in regard to such vessels as could be seen with the naked eye. I long ago showed that in the bat's wing there is no microscopical arterio-venous inosculation, and the denial might be extended generally to microscopical arteries and veins, so far as is known, with the single exception of the *arterio-venous* inosculation, which I discovered in the mesentery of the frog, where there are *no capillaries*. Here are two drawings I made of the inosculation, with the direction in which the blood was seen flowing indicated by arrows. Believing, then, that there is no direct anastomoses between arteries and veins, Harvey denied the possibility of regurgitation of blood from the latter into the former. Here I ought perhaps to interpose an allusion to Harvey's conjecture that, in certain instances, ultimate arterial ramifications do open into larger veins by penetrating their coats obliquely in a manner similar to that in which the ureters enter the bladder, so that regurgitation could not take place. This description of an hypothetical inosculation, however, does not at all tally with the real arterio-venous inosculation, I have just mentioned in the mesentery of the frog. As to the possibility of any regurgitation through the "pores of the flesh," Harvey considered the impetus given to the stream of blood by the force of the heart's action from behind sufficient to prevent that, especially as, according to him, the veins do not possess any pulsific power by which to force the blood back.

To say nothing of the tonic contractility of the walls of the small veins generally, my discovery that the veins of the bat's wing do actually possess a pulsific faculty, in other words, are endowed with rhythmical contractility like the heart, is an evidence to the contrary; though, be it remarked, Harvey's contention against the possibility of regurgitation is, at the same time, admirably well supported, seeing that the veins are provided with valves which prevent regurgitation during the contraction whereby those vessels are enabled to assist the heart in propelling the blood onward in its course.

In what I am now about to lay before you towards the elucidation of Harvey's conjectured *artificium admirabile*, I shall have occasion to make reference to the behaviour of the blood-corpuscles within the vessels; seeing that they play a most important part in the mechanism of the extreme circulation.

Constriction of calibre of the small arteries by the contraction and dilatation of calibre from relaxation of their muscular coat may often, as I have before observed, be seen to alternate. The alternations, however, are not at all rhythmical, but occur at irregular intervals of time, and are not in any way connected with the arterial pulse.

I mentioned in the first part of this lecture my observation that when constriction of an artery took place in the frog's web or bat's wing under microscopical examination, the flow of blood is not only arrested, but actually becomes retrograde owing to the constriction being regressive from the branches towards the trunk, but that as soon as the artery became dilated again the blood flowed freely in the direct stream as before. The occurrence of such a regurgitation within an artery itself, Harvey of course could never have contemplated.

In watching the flow of blood in the vessels of the web of the frog under the microscope, we sometimes see an artery constricted at one place and dilated at another. In such a case it is interesting to observe the operation of the physical law exemplified in the retardation of the stream of blood or entering the dilated part of the vessel. The fact that in an artery dilated throughout its whole length, the stream of blood is freer and more rapid, must not, however, be considered as a contradiction of this law; for when an artery is dilated throughout its whole length, the force of the heart from behind has scope to operate more freely on the stream of blood, there being less resistance; whilst, at the same time, the stream in the dilated artery under observation is, in fact, entering it from a wider channel.

From what I have said of the variations in the rapidity of the flow of blood in arteries from variations in their width, you will now perceive how the capillary circulation is controlled and regulated by the small arteries, though these vessels have no share in the actual propulsion of the blood. You will also perceive how that in one part of the body the arteries may be constricted and the flow of blood retarded, whilst in another part the arteries may be dilated and the flow of blood accelerated, though the heart's force propelling the blood be the same in both.

In the first part of this lecture you will remember that I drew your attention to the constrictions and dilatations of the large artery of the rabbit's ear, on a misinterpretation of which the erroneous notion has been founded that this vessel serves the purpose of an auxiliary heart.

The mechanism of blushing, I have here to observe, is

similar. When the face becomes pale and cold, that is in consequence of sudden constriction of the small arteries under the influence of some nervous impression or emotion, by which the flow of blood is arrested. Then, this constriction giving way to dilatation of the small arteries, the face becomes red and burning hot from the increased access of blood. Whilst in one part there may be constriction of small arteries with paleness, in another part there may be dilatation of small arteries with redness. The ears are liable to blush as well as the face, and Harvey remarks that, under the influence of fear, he has observed the face to become pale and cold, while the ears were red and burning.

The sudden and great constriction of arteries which we often see in the frog's web, the bat's wing, and the rabbit's ear, I have noticed to take place especially when the animals under examination became agitated and struggled. This fact, which I pointed out in my paper on the rhythmical contractions of the veins of the bat's wing, shows that the constriction occurs under the influence of a general nervous excitement.

Here, also, I may notice the occurrence of vascular injection of the eye, with certain other effects, after section of the sympathetic nerve in the neck—an experiment which is best known as having been performed of late years by Claude Bernard, Brown-Séquard, and many others, but which was first performed by Pourfour du Petit more than a hundred and fifty years ago. In the first edition of my work on Ophthalmic Medicine and Surgery, published in 1847, I refer to Pourfour du Petit's experiment, and attribute the vascular injection of the eye to paralysis of the walls of the arteries, leading to dilatation of their calibre and an increased flow of blood. In my Astley Cooper prize essay on the State of the Blood and the Bloodvessels in Inflammation, published in the number of Guy's Hospital Reports for October, 1850, I mention also an effect of section of the ischiatic nerve of the frog (which includes vaso-motor nerves) to be dilatation of the arteries, with a fuller and more rapid flow of blood in them, and increased redness of the whole limb—not exactly inflammatory redness, but rather the redness of blushing; a result similar to that which takes place in the corresponding side of the head after Pourfour du Petit's experiment of cutting the sympathetic in the neck. Affection of the roots of vaso-motor nerves from injury or disease of the spinal cord leads to similar disturbance of the circulation in the parts the arteries of which are governed by the implicated vaso-motor nerves. The vaso-motor nerves implicated in the experiment of dividing the sympathetic in the neck having roots in the cervico-dorsal region of the cord, the effect of injury or disease of that part is similar to the effect of section of the sympathetic itself in the neck on the arteries governed by the vaso-motor nerves in question.

Constriction of small arteries may endure for an indefinite length of time. The first effect of great constriction of a given artery is, we have seen, to retard or altogether arrest the flow of blood into the capillaries and venous radicles to which it specially leads, and so diminish the quantity or stop the supply altogether. The part to which the artery leads thus becomes exsanguine; but if the constriction of the artery continues, regurgitation of blood takes place from neighbouring anastomosing vessels, so that congestion supervenes in the previously exsanguine part. And this congestion increases so long as the artery or arteries continue constricted.

The effect of dilatation of a given artery, on the other hand, is a freer flow of blood in it. Supposing, therefore, an artery previously constricted for some continuance now becomes dilated, the free and strong stream of blood in it, which thereby ensues, drives on the blood-corpuscles which had accumulated in the capillaries and venous radicles by regurgitation. The congestion thus becomes dispersed. If, however, the congestion has already existed for some time, the corpuscles of the blood may have become so closely aggregated and packed together as to be stagnant in the congested capillary vessels and venous radicles. The force of the stream in the now dilated arteries is thus not only insufficient to drive on the accumulated corpuscles, but, by transmitting more blood to the affected part, actually causes an increase and spread of the congestion.

If the small arteries have not been constricted to closure, blood still passes by them in small quantity, but the *vis a tergo* being, in consequence of the constriction, insufficient to drive it on, the corpuscles *gradually* accumulate in the capillaries and venous radicles. Such is a source of congestion in addition to the regurgitation from neighbouring anastomosing vessels.

All this, you will observe, is a process extending through a certain length of time, so that while constriction of small arteries from exposure to cold, as in catarrhal conjunctivitis, for example, may be the cause of the commencement of an inflammatory congestion, reaction by supervening dilatation may lead to resolution, if it take place early in the process. If, however, the inflammatory congestion has already existed for some time, the supervening dilatation of small arteries will not only fail in producing resolution, but will probably increase the congestion. Forgetting that inflammatory congestion is a process extending through a certain length of time, and comprising a succession of stages, the one leading to the other, pathologists, looking at a case of inflammation already established, have incorrectly alleged that the first essential and fundamental state of the blood-vessels in inflammatory congestion—from cold, for example—is enlargement, and consequent engorgement with blood. Whereas I maintain that congestion and stagnation of red corpuscles do not take place in cases in which the arteries are already dilated, except under the conditions I shall immediately mention, but that the state of the arteries in the first stage is constriction permitting of the accumulation and aggregation of the corpuscles of blood, which may still pass slowly and in small quantity through the constricted arteries into the capillaries and venous radicles, and especially of the corpuscles of the blood regurgitating from neighbouring vessels in the manner I have explained. The accumulation and aggregation of blood-corpuscles in the capillaries and venous radicles, as thus permitted, constitute the condition on which the inflammatory enlargement and engorgement of capillaries and veins especially depend in a catarrhal conjunctivitis, in which the small arteries may be observed much constricted. This constriction of small arteries from cold, or the like, operates fundamentally in the same way in producing inflammatory congestion that a wound does. In both cases there is obstruction to the flow of blood in the arteries implicated, along with regurgitation from neighbouring vessels into those previously fed by the arteries in which the flow of blood is arrested. The inflammation of the conjunctiva, as well as that of the frog's web excited by an incision, manifests itself first by congestion at the margins of the wound, *the further margin especially*, and this is the result of regurgitation.

Cold, as I have before said, excites constriction of the small arteries, and its operation may be either direct or reflex. Its local action is manifested, for example, by the pale, livid, and shrunken state of our fingers in cold weather; but reaction setting in, the small arteries become dilated, so that the free circulation is restored, whereupon the fingers become red and glowing warm.

The action of cold on the system generally is often the exciting cause of a catarrhal ophthalmia, bronchitis, or the like. In such a case constriction of the small arteries of the organ is induced by reflex action through its vaso-motor nerves, and it depends on predisposition which organ becomes affected.

The *first effect* of an irritant applied to the web of a frog, displayed under the microscope, is seen to be constriction of the small arteries. You may use a drop of spirit for the purpose. Watching carefully, you will observe the arteries immediately become constricted and the flow of blood retarded or stopped, but this constriction soon gives way to great dilatation with a freer flow of blood. Here I have to interpose the remark that atropia excites constriction of small arteries, but as this constriction is of a somewhat different character from that under notice, I make no reference to it at present. The constriction excited by a drop of spirit is sometimes so momentary as scarcely to be noticed; hence the supervening dilatation of the artery might be taken for the *first* effect of the application of the irritant instead of the *secondary*.

If there is already any congestion of the web thus experimented on, dispersion of it is quickly produced by the force of the freer stream of blood which ensues in the dilated artery. Such is the explanation of the *modus operandi* of a drop of the nitrate of silver solution, for example, in curing conjunctivitis, as I have often before told you.

If we apply a strong solution of common salt to the web of the frog under examination, we observe the small arteries, after being momentarily constricted, perhaps, become dilated,

and the flow of blood in them accelerated. But this acceleration we see soon gives place to retardation, which is evidently owing to agglomeration of the red corpuscles into a viscid-looking mass. This mass, adhering to the walls of the capillaries and venous radicles, blocks them up, and so stagnation of blood in the part takes place. This is an example of the stagnation which, as I before hinted, takes place under particular conditions when small arteries are dilated, but it is owing, not to the coexisting dilatation of the small arteries, but to an altered state of the blood induced by the action of the salt—an action which consists in withdrawing the watery part of the plasma of the blood in the vessels acted on by exosmose, and so producing the inspissation of it which determines an aggregation of the red corpuscles.

If, in cases of traumatic inflammation of the frog's web, we apply a solution of salt to the part, the arteries not implicated in the wound, after being constricted, perhaps, soon become more dilated. The first effect of this dilatation is, that the stream of blood becomes freer in them and regurgitation greater; while, in consequence of the increasing aggregation of the red corpuscles in the manner I have explained, the blood at length stagnates. The result is an extension of the inflammatory congestion.

I took advantage of this process in making the blood-injected preparations of the inflamed web of the frog which illustrated my essay on the State of the Blood and the Bloodvessels in Inflammation. In like manner, if in a case of conjunctivitis from the presence of a foreign particle in the eye, you drop in the nitrate of silver solution, you only make matters worse, as I have often told you. Remove the particle first, and the inflammation will probably subside of itself, if it has not already been of some standing. So also in the case of a small abscess, evacuate the matter and the surrounding inflammation becomes quickly resolved.

In simple dilatation of the arteries, independent of any local application acting on the blood, but caused, for example, by section of the vaso-motor nerves, no such agglomeration of the red corpuscles takes place, and consequently no such stagnation. On the contrary, the freer stream of blood, I have shown, disperses any congestion even that may have existed in the web before the ischiatic nerve was divided. I have also shown that it was only by prolonged action of salt on the web after section of the ischiatic nerve that even a slight degree of congestion was induced.

All this I described long ago, and illustrated by figures in my essay on the State of the Blood and Bloodvessels in Inflammation, which I have so often referred to; but Professor Cohnheim, whose views have been so eagerly taken up as truths, has, I fear, misobserved the correlation of the phenomena, and thus misinterpreted the conditions under which they present themselves. The pathology and treatment of catarrhal conjunctivitis alone show the utter unreliability of these views. I must therefore warn you against them as compiled in your text-books on physiology and pathology, or retailed in lectures.

Perceiving how important the study of the blood and the mechanism of its flow in the extreme vessels, as observed in the thin transparent parts of living animals disposed under the microscope, would prove in elucidating the characters of inflammation as presented in the various ophthalmiæ coming under my notice in practice, I thus long ago applied myself to the investigation of the anatomical, physiological, and pathological characters of the blood, as well as of the phenomena and mechanism of its flow from the extreme arteries into the capillaries, and thence into the venous radicles.

The paper I hold in my hand, which appeared in the *British and Foreign Medical Review*, No. 28, 1842, treats of the subject in considerable detail, and a paper I contributed to the *Edinburgh Medical and Surgical Journal* the following year contains some figures, of which these are the original drawings, illustrative of the mode of formation of the buffy coat on the surface of blood drawn from persons labouring under certain forms of inflammation.

In a clinical lecture which I hope to deliver in the course of the session on some points in the pathology of the blood, I shall explain to you the peculiar characters of inflammatory blood on which the formation of a buffy coat depends. This was a subject which exercised the minds of our fathers and grandfathers of the profession more than it seems to do the sons of the present day. In the meantime I would warn you against what professes to be an explanation of the buffy coat in one of your text-books on physiology. I think I may also warn you against the notion that, after the abstraction of blood, white corpuscles become disintegrated, and by the reaction of their débris cause coagulation—a notion really as absurd as that of the late Dr. Martin Barry, who supposed the fibrin to be composed of fibres originally contained in the interior of the red corpuscles, by the bursting of which they were set free.

What we can observe in detail of the phenomena of the flow of the blood in the extreme vessels of the web of the frog's foot, or the web of the bat's wing, disposed under the microscope, and what we can see of the phenomena of inflammation excited in those parts, I indeed found to elucidate greatly the nature of the inflammatory appearances we can observe in the conjunctiva of the human eye by the help of a magnifying glass.

To pass to another point regarding the *artificium admirabile* by which the circulation in the extreme vessels is carried on. The bronchial arteries, you are aware, are the proper nutrient vessels of the lungs. The blood conveyed to those organs by the pulmonary artery is venous blood, and is not, as was indeed already pointed out by Galen, intended for the nourishment of the lungs. In accordance with this, I have observed in my examinations of the frog or water-newt that the muscular coat of the ramifications of the pulmonary artery is comparatively little developed, and that therefore variations in the width of these small arteries, by constriction or dilatation, are little or not at all noticeable. Consequently the capillary circulation in the lung is very uniform, and not liable to variations like what we see in the capillary circulation of the system generally—variations by which the processes of nutrition are regulated.

In speaking of the flow of blood in the vessels of the lungs, I may mention, as worthy of notice, the fact that on directing a slight stream of carbonic acid gas against the lung of a frog displayed under the microscope, I observed the streams to become instantly arrested in consequence of the aggregation and stagnation of the blood-corpuscles within the vessels. The red corpuscles, from being pale, red, and flexible, like loosely-filled bladders, were seen to become dark-coloured and flattened. This demonstration, you will perceive, was an instructive illustration of the pathology of asphyxia.

The next point in elucidation of Harvey's conjectured *artificium admirabile* I have to call your attention to is the effect of a wound on the extreme circulation in the injured part. On making an incision in the web of the frog's foot or bat's wing, the artery or arteries implicated are observed at first to become constricted to closure, from contraction of their muscular coat, both upwards and downwards, but soon after to become dilated from relaxation of their muscular coat. This explains how it is that when you happen to cut your finger, or on first cutting the skin in an operation, the wound not only does not instantly bleed, but is actually exsanguine for the moment, and that hæmorrhage only subsequently takes place in proportion as the arteries become relaxed and dilated. The bloody points seen on the cut surface in the exsanguine stage are the mouths of divided veins which do not become so much retracted and constricted as those of the arteries.

I read a paper on the process by which the hæmorrhage from a wound naturally becomes arrested a few years ago to your Society in the College, and which you will find printed in THE LANCET. I shall, therefore, not enlarge further on the subject, but beg only to observe that the natural arrestment of hæmorrhage is indeed a beautiful exemplification of the *artificium admirabile*, by which the extreme circulation is carried on. I may, however, remark in passing that white corpuscles of the blood evince *no* disposition to *escape* through the open mouths of divided vessels and *wander* away in "pores of the flesh," but are seen to *remain*, unchanged in shape, suspended in the plasma which comes to form the exterior part of the internal clot.

Here also I have to repeat what I once stated to you before, that I never saw white corpuscles, while *within the vessels* of the living animal, undergo *any change of shape*, and much less any of them pushing out a *proboscis* and *boring through* the walls of the vessels.

Whenever and wherever, in a much inflamed part of the web of a frog, I have seen corpuscles, both white and red, *free*, the walls of the vessels in which they had been collected had *already given way* and disappeared, as I described at p. 51 of my essay so often referred to.

These extravasated blood-corpuscles appear to be the same as those referred to by Professor Cohnheim as having escaped by *boring* through the walls of the vessels. I would recommend Professors Cohnheim and Schmidt to look into my papers on the "Blood-corpuscle," in the Philosophical Transactions for 1846. The former will there find an account of amœba-like changes of shape which the white corpuscles undergo *after* their escape from the body; and the latter a description and delineation of slightly coloured *nucleated blood-cells* from the horse and elephant, such as he refers to as being found among the white corpuscles in the plasma which collects on the surface of horse's blood shortly after being drawn.

The re-establishment of the flow of blood in collateral channels which become enlarged after ligature of a principal artery is a most important point in surgery, but one which does not call for notice on the present occasion. What here claims notice is the mode of the re-establishment of the flow of blood by anastomosing vessels when a small artery or vein is cut. Time, however, will not allow me to go into the subject, but you will find the whole explained in detail and illustrated by engravings in my Astley Cooper Essay on the State of the Blood and the Bloodvessels in Inflammation. You will also there find traced a point about which Harvey's mind, we have seen, was greatly exercised—viz., whether regurgitation of blood could take place from veins to arteries. He was right in supposing that no general regurgitation takes place. Locally, however, we may see that when the direct stream is interrupted by division of vessels in a wound, regurgitation through capillaries may and does take place into anastomosing channels, but after a few deviations the general course is resumed.

I have before spoken of the *artificium admirabile* by which the rhythmical contractions of the veins (which are provided with valves) in the bat's wing promote the flow of blood. The bat's wings being so extended, the heart's action alone would have been insufficient to keep up the circulation at such a distance.

The last example of *artificium admirabile* connected with the extreme circulation to which I would call your attention is the propulsion of lymph by lymphatic hearts into veins. And, first, it is to be particularly noted that *pulsation of the vein is not thereby excited*. This might have been expected *à priori*, on account of the increasing width of veins from branches to trunk. To this condition I have to add that the small quantity of lymph propelled into the vein at each stroke of the heart is insufficient of itself to distend the vessel. The mistake, however, has been made, and I fear still prevails, that pulsation of the vein is excited, and this notwithstanding all the proofs to the contrary which my observations have supplied, and which may be easily verified, if, like Harvey, professors and authors would only think it fit "on the original itself to look." I here consider it my duty to warn you against the nonsense on the subject contained in the Text-book of Physiology I have before referred to.

Rhythmical contraction of the walls of the veins of the bat's wing, and the pulsation of an artery from rhythmical distension of it, are two very different actions, and yet they are constantly confounded. Again, because arteries pulsate in consequence of their rhythmical distension with blood at each stroke of the ventricles, it is erroneously assumed that a vein into which lymph is propelled by the rhythmical contractions of a lymph heart must pulsate also.

The lymphatic heart in the tail of the eel was discovered by the late Dr. Marshall Hall, but he mistook it for an auxiliary blood heart. In this paper, printed in the Philosophical Transactions for 1868, I record my discovery of the true explanation of the phenomena, *proving* that the organ in question is a lymphatic heart and not a blood heart. The caudal heart of the eel had already been viewed by Dr. Milne Edwards as a lymphatic heart, but until my discovery of the nature of the deceptive appearance as if blood was propelled from it into the caudal vein, the question necessarily remained doubtful.

The lymphatic hearts of the frog, posterior and anterior, were discovered by the late Professor Müller of Berlin, but he also misinterpreted what he saw as regards the mechanism by which the anterior lymphatic hearts propel their lymph. In another paper, read before the Royal Society, I described the true mechanism of the propulsion of lymph by the anterior lymphatic hearts into their corresponding veins. These veins, I showed, are different from those inaccurately alleged by Professor Müller to be the recipients of the lymph.

The jugular vein of the frog exhibits remarkable rhythmical movements, so that Dr. Marshall Hall, who first noticed the vessel, mistook it for a pulsating artery. Professor Müller recognised the vessel to be a vein, but erroneously supposed that its movements are pulsations produced by the propulsion of lymph into it from the anterior lymphatic heart. The lymph from the anterior lymphatic heart is, as I have said, propelled into a different vein altogether from that supposed by Müller, and *without any pulsation of the vein* into which it is driven; whereas the movements of the jugular vein are owing merely to its connexion with the cellular capsule of the heart, through the medium of some of its radicles, so that it is dragged as a whole in a longitudinal direction backwards with each systole of the heart, and recoils forwards during the diastole.

In conclusion, gentlemen, permit me to say that my observations and discoveries, the results of which I have now briefly laid before you, have, I am bold to assert, elucidated more fully than has ever yet been done, the *artificium admirabile* of the circulation in the extreme vessels which Harvey so sagaciously conjectured to exist, and which he yearned so anxiously to understand, but could not for want of the means of investigation.

Croonian Lectures
ON
SOME APPLICATIONS OF PHYSICS TO MEDICINE.

Delivered at the Royal College of Physicians of London, March 1879,

BY WM. H. STONE, M.A., M.B. OXON., F.R.C.P.,
LECTURER ON EXPERIMENTAL PHYSICS AT ST. THOMAS'S HOSPITAL.

LECTURE II.—PART III.
THE HEART AS A MACHINE.

IT may be accepted as an axiom that every reduction of physiological or pathological processes to known physical laws, even if only partially and approximately successful, is a step forward in science, and that if the whole disturbance of nature's equilibrium, from the excessive complexity of the functions involved, be beyond our power of analysis, there is still some advantage and a gain to precise observation in cutting off and putting on one side such portions as are susceptible of accurate treatment. The predominance of vague, though necessary, generalisations, such as that of vital action, is thereby materially diminished, and the direction is more closely indicated in which future efforts at advance may most judiciously be directed.

Of all parts of the human organism there is none, after the simple muscular and bony framework, which belongs more distinctly to Physics than the apparatus of circulation, and its central motor, the heart. This organ is obviously nothing more than a double force-pump, furnished with two reservoirs and two pipes of outflow. It is true that the valvular apparatus, which is also duplicated, is furnished with complex muscular and tendinous appendages to regulate the tension and secure the apposition of the occluding surfaces. But in the main the problem of its action is hydrodynamical, and many valuable facts may be obtained by regarding it in a mechanical point of view. The height to which this force-pump is called upon to raise a given volume of fluid is obviously measured by the height of the animal to which it belongs, and even as early as 1769 Dr. Hales made experiments on horses, which showed the height of the column of fluid sustained by the heart's contraction, as transmitted through the large arteries, to be in horses about 9·14 feet.

Dr. Haughton, in his excellent and suggestive work on "The Principles of Animal Mechanics," has most ingeniously utilised an accidental opportunity afforded by an operation for computing the force, when a large artery is divided in the human subject, at a vertical column of 2·58 feet; that ascertained to exist in the horse being 2·53 feet. It would, indeed, seem that the maximum hydrostatical force is about the same in the two animals, and probably not far different in the sheep and dog.

Besides (1) the statical pressure of the column equal to the animal's height, which has to be sustained, and (2) the force consumed in overcoming the inertia of the blood-mass, an important element in the work to be done is (3) the resistance offered by the capillary vessels to the flow of blood. There is reason to believe, says Dr. Haughton, that in animals similar in bulk the arrangement and structure of the capillaries are such that the ratio of the squares of their cross-sections to their total length is practically constant. Supposing the co-efficient of capillary resistance to be the same in the man as in the horse, we can calculate, on Dr. Haughton's method, the hæmostatical pressure of blood in the human arteries. The left ventricle has a capacity of about 3 oz., or 5·2 cub. in., and beats about 75 times per minute.

Taking the usual equation of capillarity—

$$Q = A \times \frac{h.d^4}{l}$$

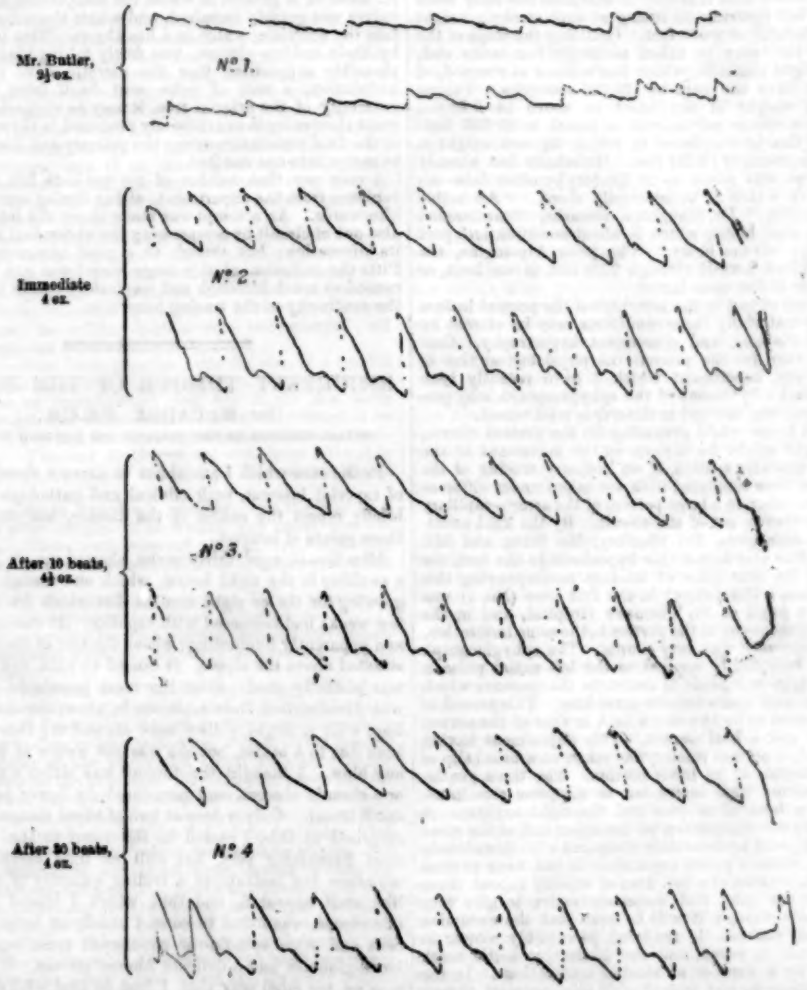
Where Q = quantity discharged in a given time.
A = a constant.
h = the charge, or hydrostatical pressure.
d = diameter. l = length of tube.

Solving this for h,

$$h = \frac{Q}{A \times \frac{d^4}{l}}$$

Substituting for Q the product of capacity and rate of pulse, and for the capillary resistance, its value found for the horse, we obtain—

$$h = \frac{5{\cdot}2 \times 75}{39{\cdot}3} = 9{\cdot}923 \text{ feet.}$$



In all the tracings the lower is the normal pulse, the upper one with vessels compressed. Nos. 1, 3, 4, from the same patient, George W——, aged thirty-seven.

There is a fourth element to be considered in estimating the heart's work—namely, the friction of the machine itself. This, in a state of health, is kept at its minimum by the beautiful contrivance of the smooth lubricated serous membrane of the pericardium. It will be seen that in disease this condition may be completely altered.

It appears from Dr. Haughton's calculations, resulting from comparison of several observations, that the average weight of the heart may be taken as = 9·39 oz.

Dr. Peacock's laborious collection of weights, both in health and disease,[1] gives a value not far distant from this—namely, "in persons from twenty to fifty-five years of age it is, in males, 9 oz. 8 drachms; and in females, 8 oz. 13 drachms." But in disease this is entirely changed. The heart possesses a power of increasing its muscular force in proportion to any extra work that may be thrown upon it. In extreme cases the hypertrophy thus caused may be very considerable. Even without valvular disease of the organ a remarkable increase may occur, especially in persons whose occupation subjects them to sudden muscular strain, accompanied by forcible holding of the breath, as in the case of paviours working with their rammers. Dr. Peacock records a case in which the heart weighed 40 oz. 12 drachms, though nothing, except some atheromatous change, was detected sufficient to explain the hypertrophy. In this instance, however, no note was apparently obtained by which the time during which the compensatory process had been going on could be ascertained.[2]

From the above data it is easy to calculate the daily work done by the left ventricle in lifting at each stroke a weight of 3 oz. to a height of 9·923 feet. Omitting the steps of the calculation, this may be taken as 89·706 foot-tons; and, adding the right ventricle, which has a force of about $\frac{1}{4}$ of the left, we have the sum as 124·208 foot-tons. Taking the average weight of the heart as above at 9·39 oz., the work per ounce per minute is equal to 20·576 foot-pounds. If this be employed in lifting its own weight in one hour, the result is 19,754 feet. Helmholtz has already calculated out this result as 20,250 feet by other data—an approximation which is satisfactorily close. "An active mountain-climber," Dr. Haughton remarks, "can ascend 9000 feet in nine hours, which is about one-twentieth part of the energy of the heart." The prize Alp-engine, the "Bavaria," lifted herself through 2700 feet in an hour, or an eighth part of the same factor.

It will be my object in the later part of the present lecture to show how materially these conditions may be altered by pathological changes, and consequent hypertrophy. Continuing, however, for the present the physiological view of the subject, an experiment which I have recently been enabled to make by means of the sphygmograph may perhaps be of sufficient interest to deserve a brief record.

It occurred to me while preparing for the present course, that some light might be thrown on the movement of the blood in the vascular system, if an ordinary tracing of the healthy pulse were compared with one taken under different circumstances, wherein a large portion of the arterio-capillary network was thrown out of the circuit. By the kind assistance of my colleagues, Dr. Sharkey, Mr. Pitts, and Mr. Sandwith, I was able to put this hypothesis to the test, the result being the four pairs of tracings accompanying this communication. The patient in the first case (No. 1) was Mr. Butler, a pupil of St. Thomas's Hospital, and in the last three instances one of the porters in the same institution. The *modus operandi* was very simple. The sphygmograph having been very firmly applied to the left radial pulse, a series of tracings was made to ascertain the pressure which produced the most characteristic curve-line. This proved in Mr. Butler's case to be two and a half, in that of the porter, four or four and a half ounces. This adjustment having been obtained, a normal tracing was taken on a broad slip of smoked plate glass at its lower portion. The three gentlemen above-named were instructed to compress simultaneously the two femoral arteries and the right axillary. A second tracing was then taken on the upper half of the same slip, so that it could be accurately compared with that already taken. Mr. Butler's pulse, even after it had been excited by the administration of a full dose of whisky (about three ounces), was too quiet and undemonstrative to give very striking results, though it will be seen that the excursion is diminished, the rate is rendered perceptibly slower in the ratio of six to seven, and the distinctive aortic notch is obscured by a number of smaller undulations. In the case of the porter we had to deal with an older man, of very muscular build, with a strong bounding, though not morbid pulse, who has been for some years in a Guards regiment. The first pair of tracings (No. 2) here showed a very important modification in the contour of the undulation. To eliminate any error due to a merely transitory change, ten full pulsations were in the second case (No. 3) allowed to elapse after the complete closure of the three large vessels above-named, before the second tracing was taken, and in the third trial (No. 4) thirty beats were steadily counted with the vessels occluded, before the second tracing was obtained. Beyond this I did not feel justified in going, for fear of phlebitic or thrombotic accidents. It will be seen, however, that the change of character in the wave becomes decidedly more marked in each succeeding instance than in that preceding it. It consists roughly in the total obliteration of the dicrotic wave termed the "aortic notch." Accompanying this is an increase of rapidity and suddenness in the line of ascent, which, from being nearly vertical in the uncompressed, bends distinctly backwards in the compressed tracings, thus reproducing the circular arc in which the index of the sphygmograph travels. The latter fact might have been anticipated, but the former is curious, and I believe novel. The compressed tracings might be mistaken by an observer not acquainted with their mode of production for those of a patient in whom the competency of the aortic valves was gravely impaired, and where the reflux of blood into the ventricle, which in a healthy condition is prevented by their sudden closure, was freely taking place. On the plausible supposition that the dicrotic wave is a return undulation, a sort of echo sent back from the distal extremity of the arterial tree, it may be suggested that the great shortening thus artificially produced in the wave-length of the fluid undulation causes the primary and dicrotic waves to merge into one another.

I may say that neither of my patients felt any inconvenience from the experiment, either during compression or afterwards. An attempt was made to cut the internal iliacs also out of circuit by compressing the abdominal aorta before its bifurcation; but though to a good anatomist like Mr. Pitts the occlusion of this large vessel was not difficult, it caused so much hiccough and respiratory spasm as to render the continuity of the tracing uncertain.

[1] On the Weight and Dimensions of the Heart in Health and Disease.

[2] The substance of this lecture was originally read before the British Association at Dublin in 1878, and will be found in the Transactions of Section D—Department of Anatomy and Physiology.

RECURRENT TUMOUR OF THE BREAST.[1]

BY W. CADGE, F.R.C.S.,
SENIOR SURGEON TO THE NORFOLK AND NORWICH HOSPITAL.

IN the case which I am about to narrate there are points of especial interest, both clinical and pathological. I will briefly report the course of the disease, and then refer to these points of interest.

Miss G——, aged thirty-seven, showed me, in April 1874, a swelling in the right breast, which she thought had been growing for six or eight months, but which during the last few weeks had increased with rapidity. It was soft, elastic, and apparently fluctuating; about the size of the closed fist; situated above the nipple. It caused no pain, and her health was perfectly good. Over the most prominent part there was discoloration from ecchymosis, about the size of a shilling, with a slight yellow zone around it; this may have been due to a bruise, but she was not aware of having had any blow. I thought the tumour was either a simple cyst or a chronic abscess, and punctured its lower part with a small trocar. Only a drop or two of blood escaped. Rather surprised at this, I passed in the trocar at the upper and most fluctuating part, but still no fluid escaped. As I withdrew the instrument a trifling quantity of clear jelly-like stuff appeared, and this, which I placed under the microscope, was found to consist chiefly of large nucleated cells and some spindle- or oat-shaped ones, together with blood-globules and a delicate fibrous stroma. The impression on my mind was that I had to deal with a variety of soft malignant growth. I communicated this view to a surgeon who accompanied the patient, and to whom she was engaged.

The tumour rapidly enlarged, even a week making an

[1] Read before the Norwich Medico-Chirurgical Society.

obvious change. On April 13th the whole tumour and breast were removed. It had on section a soft gelatinous appearance like calf's-foot jelly, with indistinct septa and a thin cellular capsule which clearly designated its limits. It was about the size of a doubled fist, and so soft was it that some of the interior dropped on the floor by the mere force of gravitation. The wound healed soundly.

She married in September of the same year. In November she called to show me a small lump above and near the axillary end of the cicatrix. It was soft, apparently fluctuating, exactly like its predecessor. It rapidly increased in a week, and was removed on Nov. 9th. It was then as large as half an orange, and had precisely the same gelatinous aspect as the former one. The wound healed quickly.

Feb. 12th, 1875.—Again a fresh nodule close to the first cicatrix. It was only discovered two days previously, and had already reached the size of a filbert. There was no pain, no glandular affection, and her health was perfectly good. In the pectoral fold, amongst the fat, was a second tumour, which she had not noticed. On the following day (Feb. 14th) I removed both tumours; they exactly resembled the former ones.

March 20th.—Again a return, near the old cicatrix. At this time, by my advice, she consulted Sir J. Paget. He considered the tumour to be non-malignant, and said, "I think the only good course in such cases is to cut out the growths as often as you can without great risk of life. There is always a chance—almost a fair hope—that the growths will cease to recur, and then the recovery may be complete. It usually is so after amputations of limbs with recurrent tumours, and if all the places on which these recurrent mammary glandular tumours tend to grow can be removed, they will be at an end. I would, therefore, again make a free excision."

23rd.—I removed two tumours, each as large as a walnut. The operation was a considerable one, and the wound large. She quickly recovered, and was well in about ten days.

April 26th.—Another return; in the axilla, close to the cicatrix resulting from the operation of Feb. 14th. It was like the others; the axillary glands were not enlarged; all the other cicatrices were healthy.

June 12th.—New fresh growths; one the size of a marble quite at the sternal end of the first cicatrix, where there had been hitherto no reproduction, and one larger and more diffused amongst the other scars. Both were removed on June 19th. They had the same appearance of brown, translucent jelly. The one in the centre was large; the skin flaps were thin and partially sloughed. The wound healed slowly.

July 31st.—Again two fresh growths—one the size of a chesnut, the other larger. The wound last made was not quite healed. These were removed on Aug. 1st. The flaps were thin and sloughed, but the wound, and that of the last operation soon healed.

Several of the late operations were done during pregnancy, and she was now approaching the end of her term.

Sept. 11th.—Again a return. Seeing that she was expecting her confinement within a few days, prudence seemed to counsel a delay.

20th.—The tumours were rapidly increasing. All along the upper mammary region above, and including the cicatrices, was a soft fluctuating, or rather elastic swelling, which measured six inches by two inches and a half. This reached from the border of the axilla and across parallel with the clavicle, nearly to the sternum. Besides this there was another at a lower level, of the size of a walnut. There were no indications of approaching labour, and longer waiting was out of the question. On the following day (Sept. 21st) I removed both tumours. *Labour had already begun.* She was under chloroform nearly an hour, during which the uterine pains were not noticed. Seven or eight arteries were tied; every little one indeed which under the stress of uterine action might be made to bleed. I stayed two hours in the house, during which time labour pains returned, and when I left the os was well dilated and the head low down. The child was born a few hours after, and in every respect she recovered well from both operation and confinement.

On Oct. 17th I removed three fresh tumours, each about the size of a hazel-nut; they were the growth of scarcely a week. Each wound was freely mopped with solution of chloride of zinc (two drachms to one ounce of water).

On Nov. 8th, again, I removed four tumours, one at the sternal and one at the axillary end of former incisions, each about the size of a walnut; the others smaller, amongst the cicatrices. The sternal tumour was so bound down between the ribs that it was necessary to cut away some of the intercostal muscle. Chloride of zinc was used as before. Here ends the case so far as the use of the knife was concerned.

In the course of two or three weeks two fresh tumours appeared. The question of the treatment of certain tumours by electrolysis came up, and the patient was placed under the care of Dr. Althaus. Electrolysis was carefully and, we may be sure, fully tried; rapid increase, however, went on in spite of it, and the only effect of the treatment was to cause considerable pain and sloughing of the skin where the needles entered, and over the whole surface of one tumour. Electrolysis having failed, Dr. Althaus advised her to consult Mr. Bryant with a view to having the growths removed by the galvanic cautery. Mr. Bryant, however, advised against this course, owing chiefly to the fixity of the base of the tumours on the chest walls. He recommended the chloride of zinc and sanguinaria caustic paste to be applied freely to the surface, and she returned home, disheartened and sorry that she had not gone on with the use of the knife.

Dec. 20th.—There were three large tumours, all ulcerated at places, and apt to bleed, reaching across the whole mammary region amongst the old cicatrices. They were firmly fixed, and scarcely movable on the walls of the chest, partly by attachment to bones and muscles, and partly by being bound down by old cicatricial tissue. Her general health was said still to be good, but she looked pale and thin. With that true courage which this lady had shown so remarkably throughout, she still urged me to operate again. The only chance was to cut away all that was visible, and then to apply a strong caustic to the base. A few days' delay, however, led to such rapid growth of the disease that further interference with the knife was out of the question. The case quickly assumed the full aspect of fungus hæmatodes—that is, sprouting masses of soft tissue like granulation structure appeared, and grew to the size of a cocoa-nut or a child's head, ready to bleed on the slightest touch, but not furiously; so soft and friable was the outgrowth that it was easy to remove large masses with the fingers or handle of a knife, and on one occasion I swept away in this manner full half a pound, and still left a basic mass, which bled freely for a short time, but soon ceased when first cold water, and afterwards the chloride of zinc paste, was applied. The effect of this caustic was to turn the surface, and even some little depth of the tumour, into a dry black slough, which from time to time came away with masses of the kind I have described; but, as may be readily supposed, no caustic could suffice to arrest the development of the disease beneath.

Gradually the general health yielded to the combined effect of loss of blood and wear and tear, but from first to last there was never any real pain, never any implication of lymphatic glands, never, in short, any sign or symptom of constitutional affection or malignant cachexia. She died of exhaustion in the early part of 1876.

As to the nature of the tumour—was it benign or malignant? The points just mentioned and others would take it from the category of cancers. On the other hand, its constant recurrence in ever-increasing frequency and severity, its structural variance from any natural tissue, its reproduction in multiple form, and its tendency in its final stages to ulcerate and fungate—these are certainly not characteristic features of innocent tumours. As to its microscopic structure, I would speak with uncertain knowledge on this point, partly because microscopic examination was not made repeatedly, or perhaps with sufficient care, and partly because it appears to me that even in the most competent hands the microscope, in doubtful cases—just perhaps those cases in which we most want a guide—is a staff on which we cannot lean, a light which will not help us out of the darkness. As it is admitted that cancerous action does belong to some tumours in which no "cancer cells" exist, and as it is equally admitted that some known innocent tumours have cells which can scarcely be distinguished from cancer cells, so we must look to the naked-eye appearances, and to the clinical features and history and objective symptoms, to help us in our diagnosis, prognosis, and treatment. There would seem to be between the truly malignant and the truly innocent tumours an intermediate or transitional class, possessing alike some features which would identify them with, and some which would differentiate them from, either of the two great divisions.

But what are we to call this tumour? Is it, as Sir J. Paget truly called it, a "recurring glandular"; a "collenoma," as Müller would have it; a "gelatinous sarcoma," as Rokitanski would probably describe it; or a "myxoma," on Moxon and Wilks' classification? Here again I must lament the confusion and the mystification which surround the whole subject of the classification of tumours at the present day, due no doubt to a laudable desire to make clear and definite that which is most complex and puzzling. When we compare two standard works on pathology by two living authors—that of Sir J. Paget, published in 1853, and that of Wilks and Moxon in 1875,—and when we find in the latter work at least twelve classes of tumours and many subclasses, of the *names* even of which no mention is made in the earlier work, we may believe—indeed, we may be sure—that there is no discordance as to true observation of facts between them, but we must admit that the nomenclature and classification of morbid growths is left in hopeless confusion. If we could believe and hope that the nomenclature of the more recent work would be lasting, not to say true and final, we would be content; but past experience would lead us to anticipate that when the next great work on tumours is promulgated, there will be yet other names and divisions suggested, and so the literature and confusion will be worse confounded.

Let me, however, in conclusion, mention two practical points which this unhappy case well illustrates. (1) The difficulty of distinguishing between fluid and soft solid tumours. I felt sure that fluid was present, but I was mistaken, and yet I have a tolerable faculty of distinguishing between elasticity and fluctuation. The patient's own surgeon would not believe there was no fluid, even when told by me what the result of the double puncture by the trocar was. (2) The question of doing surgical operations during pregnancy receives fresh light from this case. Several of these operations were performed in the latter months of utero-gestation, and one very severe one in the early stage of labour itself, and in every instance without on the one hand interfering with the important process of gestation, and on the other without impeding the recovery from the operation itself. As Sir J. Paget pithily says: "It would be mere recklessness to operate on such patients without good cause, yet if good cause for operating exists, they may be treated very hopefully."

SUGGESTIONS IN FAVOUR OF A FURTHER DEVELOPMENT OF THE ANTISEPTIC SYSTEM,

AS A PREVENTIVE MEASURE IN RELATION TO SURGICAL OPERATIONS, THE PUERPERAL CONDITION, ETC.

BY J. WILKIE BURMAN, M.D. EDIN., S.S.C. CANTAB.

THE regular preparation of patients, when needed, previous to operations, has now wisely become an established custom, where the exigencies of the case do not forbid the adoption of such precautionary measures. It is very properly sought, as far as practicable by means of good diet and hygienic regimen, to place the patient in the most favourable condition of bodily health possible, and, without doubt, such a provident arrangement must have, in each individual case, its influence for good so far as the result of the operation is concerned. Whilst such is, or ought to be, the rule with regard to all serious surgical operations, it remains, I think, open to some doubt whether or not equal precautionary care and attention are bestowed upon the pregnant female previous to the natural operation of labour, which is attended by so great an amount of surgical and other peculiar risk, that may be lessened or averted by similar practical foresight. Be that as it may, however, it is not my purpose to dwell upon this part of the subject. It is rather my desire to indicate in what way it may be possible and advisable to go a step further with regard to preventive measures, and, by means of previous antiseptic medication, to fortify the blood itself against the possible inroads of septic matter, which, unfortunately, it is not yet within our power absolutely to prevent in all cases. I am inclined to think that the previous use of internal antiseptics might be of considerable service as an additional precautionary measure in the case of the surgical condition following labour, in which the external plan of Lister cannot be adopted, and also as an adjuvant to Listerism, or at any rate an additional safeguard, in ordinary surgical operations, with a view to the prevention of septicæmia. Lister seeks to prevent the formation of septic matter at all by the destruction and exclusion of the germs in the atmosphere that would seem to be inseparable from the putrefactive process; and if this theory of putrefaction is not accepted by all, it is practically at any rate so accepted by Lister and all his now numerous adherents. But, nevertheless, septic matter will, from time to time, be formed, under adverse conditions, in certain surgical cases, even with the strictest Listerian precautions, and more frequently so it may be presumed where such precautions are not taken, and under circumstances—as in labour—where the wound or open surface cannot be treated like other wounds, and is not readily within the power of artificial control.

The question arises therefore as to whether or not the antiseptic system admits of more intimate application, so that the blood can be previously brought into such a condition, without injury to health or other drawback, as to contain a ready antidote in case of any absorption of septic matter, and to provide for its speedy and effective neutralisation before further harm is done.

This question can, I think, be fairly answered in the affirmative; for we would seem to have in the *sulphites*, administered internally, a means of previously bringing the blood into such a repelling and neutralising condition, so far as the introduction of septic matter from without is concerned; and this condition it appears can be maintained for some considerable time without apparent injury to the health.

The well-known elaborate researches of Professor Polli, of Milan (who was the first to introduce this subject to notice), seem to afford conclusive evidence as to the great power of sulphurous acid as an internal antiseptic, when administered in the form of sulphite of soda. He found that animals could, without any apparent ill effect, swallow and absorb large doses of the sulphites; and it was observed, as would naturally be expected under such circumstances, that when these animals were killed their bodies long resisted the putrefactive process, and that, whilst an animal killed under ordinary circumstances exhibited rapid and marked signs of putrefaction, an animal which had previously absorbed doses of the sulphites betrayed no signs of putrefaction whatever. Again, in a series of experiments in which no less than 300 dogs formed the bases of the deduction, Professor Polli showed that the sulphites exerted a *prophylactic* and *curative* power when septic poisons were introduced into the economy. Then, as regards the human subject, he found that the stomach would tolerate large doses of the sulphites of soda or magnesia, which "were tried in the various eruptive fevers, intermittents, typhus, typhoid, pyæmia, puerperal fever, dissection-wounds, malarial fevers, &c. The records of cases treated in this way showed an extraordinary amount of success."[1] According to Ringer,[2] moreover, "so powerful is the antiseptic action of sulphurous acid, when introduced into the system, that sulphites administered by the mouth will, it is said, prevent decomposition and putrefaction of urine in the bladder."

Here, then, we surely have an internal antiseptic of great and undoubted value, and which, under the circumstances, would certainly seem to merit a more extended and careful trial, as a prophylactic and curative remedy, than it has yet been recorded as having received in the human subject, in the prevention and rational treatment of septicæmia.

Under the powerful influence of proper hygienic conditions, and the free adoption of external antiseptic precautions, cases of septicæmia after operation are happily becoming rarer and rarer every day; and it is probably only by further attention to prophylactic measures, so far as these may be feasible in the manner above indicated, that we shall be most likely able to cause them to be rarer still, and perhaps even to successfully and entirely prevent their occurrence. At any rate, there are theoretical and practical grounds for believing that such a pre-induced antiseptic con-

[1] The Antiseptic System, by Dr. A. E. Sansom.
[2] Handbook of Therapeutics.

dition of the blood as may be brought about by the internal administration of the sulphites would be highly favourable to the prevention of septicæmia in ordinary surgical cases, and after labour, and in all other conditions in which septic matters are liable to be formed and absorbed; and the adoption of such further precautions, and more intimate application of the antiseptic system, would certainly seem to be indicated, if we are to give our patients every possible chance of escaping danger under such circumstances.

Further experience of the internal use of the sulphites may yet show that the condition of blood thereby induced might have an additional favourable influence on the healing process itself, and experiments might well, in my opinion, be made by those having the necessary facilities to ascertain if such be the case or not.

The successful use of benzoate of soda administered internally as a prophylactic in diphtheria by Dr. Eigenbrodt, on the occasion of the alarming outbreak of that disease in the Grand Ducal family of Hesse-Darmstadt, demonstrates a still wider scope for the use of prophylactic therapeutic agents; and altogether, in these days, when the subject of *preventive* medicine is attracting such great attention on account of its paramount importance, the practice of prophylactic therapeutics seems destined to play a not unimportant part in the programme of the general practitioner.

In conclusion, I would fain express a hope that, in thus redirecting attention to the important researches of Professor Polli, I may be the humble means of stimulating to further careful testing of his results in reference to the human subject, and to further inquiry into the practical value or otherwise of his conclusions, as a result of which I feel confident experience will show that, by means of internal antiseptic medication, we are in possession of powers of control, with regard to septicæmia and kindred conditions of the blood, which may hereafter be extensively used to great advantage in the prevention and treatment of disease.

Richmond, S.W.

COMPOUND DEPRESSED FRACTURE OF FRONTAL BONE:

TREPHINING; INSENSIBILITY FOR THIRTY DAYS; RECOVERY.

BY A. J. STURMER,
SURGEON, MADRAS MEDICAL SERVICE.

WHILST in charge of the Royapettah Hospital, Madras, the following case came under my care:—

Monga Thoye, aged twelve, was admitted on Dec. 22nd, 1876, at 9.30 A.M., with a compound depressed fracture of the frontal bone. Whilst drawing water from a well she fell in, a distance of thirty feet. On admission she was quite insensible; body warm, extremities very cold; thumbs drawn into palms; good deal of twitching of the arms and legs, most marked on the left side. Breathing slow, sighing, and slightly stertorous. Pulse 64, full and intermittent. Right pupil dilated; left contracted to size of pin's head. She vomited a good deal of water on admission. A purgative enema was ordered, and this was followed by a copious action of the bowels. There was an open scalp-wound about half an inch above the outer angle of the right eye. On passing a finger into the wound a depressed fracture of the frontal bone on the right side, with the superciliary ridge below, and the zygomatic arch outwards, could be readily felt. On the forehead was a superficial wound. I enlarged the opening, but as the pieces were too firmly impacted to be raised, the trephine was resorted to. After a circular piece of bone had been removed, it was found necessary to remove a triangular piece of bone by means of Hey's saw; after which I succeeded in elevating two pieces of bone. On removal she heaved a deep sigh; the pulse rose to 80 beats, and became more regular and smaller. The dura mater did not bulge in the slightest degree, and pulsation could be distinctly felt and seen. Only one vessel, the temporal, required ligature. The flaps were laid down, and ice applied to the head after it had been shaved. Bowels open once between 1 and 5 P.M. Decubitus dorsal; legs stretched out, left hand across breast. Continued flexion and extension of left arm and both legs. Right arm tightly flexed; no movement on pinching, although the other extremities became convulsed. Left pupil not nearly so contracted. Respiration 24, shallow and irregular. Temperature 100·4°; pulse 72, good volume and regular. Ordered nutritive enema of mutton broth; enema of croton oil (two minims); ice to head.

Dec. 23rd.—Bowels open twice after oil. Passed water in bed; bladder not distended. Still comatose. Dura mater below level of bone pulsates; no fluctuation to be felt. Directly right eyelid is touched grinding of teeth and convulsive movements take place. Temperature 98·6°; pulse 80, small and regular; respiration slow and regular. Enemas of milk and of broth; ice to head.

24th.—Same state. Wound smells. Grinding of teeth. Passed water. Bowels open. Bladder not distended. Carbolic acid lotion to wound.

25th.—Still comatose. Both pupils dilated. Rolls continually towards her left side. Continual motion of left side, especially when right eyelid is touched.

26th.—Bowels open once yesterday. Wound very offensive; to be syringed out with carbolic lotion (1 in 40). Urine to be drawn off, as it is always passed in the bed. Tongue coated with thick white fur. Very restless. Left pupil contracted. Both eyelids œdematous, right slightly discoloured, no doubt due to fall. Left leg drawn up, right extended. Right arm still rigidly flexed.

27th.—Bowels cleared by oil enema. A good deal of scybala passed, rather offensive. Both pupils dilated. Urine: sp. gr. 1026, acid, no albumen; deposit of phosphates. Right leg rigid; on the sole being tickled the toes are moved, whereas if the left foot be touched the left arm and leg are flexed. Right arm same state. Pulse regular. Directly she is touched she becomes restless.

28th.—Bowels open yesterday. Right pupil dilated, left contracted; do not vary before a strong light. Dura mater pulsating, not tense. Swallowed a little milk to-day. Tongue still coated with a thick white fur. Continue ice to head; nutritive enemata; blister behind right ear; iodide of potassium, five grains, thrice daily.

29th.—Temperature 100·4°; pulse irregular and intermittent. Skin hot. Passed a scybalous motion yesterday.

31st.—Very restless. Continual winking of eyelids commenced yesterday afternoon. Grinding teeth. Bowels open once yesterday, and once this morning. Wound does not smell. Temperature 102·1°; pulse full, intermittent. Bone towards outer side of wound looks white, as if dead. Dura mater pulsating. Right leg extended, left continually flexed and extended. Legs to be padded with cotton-wool. Iodide of potassium, ten grains, three times a day.

Jan. 1st, 1877.—Both pupils dilated, same size. Frequent flexing of both legs and left arm, the latter not so frequent as the legs. Heart sounds clear, also lungs. Bowels open yesterday.

2nd.—Temperature 100·6°; pulse irregular and intermittent. Bowels open; scanty scybalous motion. All extremities flexed, lying on left side. Very restless; moaning continuously. Both pupils dilated. Iodide of potassium to be stopped. Ordered enema.

3rd.—Bowels open after enema. Constant restless movement; when at rest, same position as yesterday. Rolls towards left side. Temperature 100·2°. Pulse 75, small, soft, irregular, and intermittent.

6th.—Arms are both so tightly flexed that no pulse can be felt at the wrist. Heart's action quick and irregular. *Mouth drawn to left side.* Much weaker to-day. Tongue coated with thick white fur. Very restless, continually rolling from side to side and moaning.

7th.—Very restless. Right arm flexed and rigid; left flexed, but can be extended by slight force. Bowels not open yesterday. Pulse quick and small. Both pupils widely dilated. Still some movement, and moaning. Temperature in right axilla 99·6°, left 98·6°. Large circular ulcer over external malleolus of right foot; bedsore over sacrum, in spite of the cotton-wool padding. Enema of castor oil. Chloral hydrate, twenty grains, as an enema, repeated if necessary. Ice to head.

9th.—Two doses of chloral have had no effect. Wound healing up rapidly. Temperature 100° in right axilla; left 99·8°. Very restless; still insensible. Bowels open. Fifteen grains of bromide of potassium and twenty grains of chloral hydrate, by mouth.

10th.—Much quieter this morning. Bowels not open. Scybala passed yesterday. Repeat draught; soap and water enema.

11th.—Quieter again to-day. Bowels open freely after enema. Lying on left side, all parts flexed; bedsores healing.

14th.—Temperature 100·2°. Bowels open.

15th.—Decubitus right side; all parts flexed. Chloral 20 gr., iodide of potassium 5 gr., three times a day.

20th.—Talking for the first time, but in an indistinct manner.

21st (thirtieth day).—Asked her mother for rice this morning; talks rather irrationally, although she knows people. Bowels not open for two days. Decubitus left side; all parts flexed. Both pupils dilated. Pulse 84, irregular in volume and time. Stop brandy; to take iodide of potassium, 5 gr., three times a day.

22nd.—Quite sensible; asking for food. Bowels acted after enema. Speech very indistinct.

24th.—Crying out that she is in pain. Bowels open. Tongue furred. Temperature 98·4°; pulse 104. Ptosis of right eyelid. Drawing of mouth to left side not nearly so marked. The rolling from side to side continues; all parts flexed. Speaks as if she had something in her mouth. Ice to head discontinued.

25th.—Temperature, right axilla, 98·8°; left 98°. Sleeps well. Bowels open. More rational. Pulse 88, small, irregular. Tongue drawn to right side; mouth to left. Ptosis of right eyelid.

26th.—Pulse 76, intermittent. Bowels open twice.

27th.—Temperature, right axilla, 99·4°; left 98·6°; pulse 92, full, intermittent. Bowels not opened. Wound almost healed up. Right side of body warm, left cold. More sensible. Passes water in bed, but tells her mother when she wants to pass a motion. Cold to head. To have a pint of rice.

28th.—Temperature, right axilla, 100·3°; left, 99·6°. Two small pieces of dead bone came away this morning. Pulse 92, full, intermittent. Right arm still rigid. Bowels open.

29th.—Body hot; a marked difference between the two sides. Tongue clean, protruded in a jerky style, and always to the right side. Cannot straighten arms further than a right angle. Bowels open scantily once. Stop rice. To have a compound senna draught.

On the 30th I gave over charge of the hospital to Surgeon-Major A. Porter, M.D., to whom I am indebted for the following notes:—

31st.—Pulse 96; respiration 14. Tongue white, protruded to right side. Ptosis of right eyelid; left eye open and staring. Urine passed in bed. Milk, two pints; broth, three pints; rice, one pint. Continue iodide of potassium.

February 11th.—Stop medicine. Can protrude her tongue straight. Pulse 96; respiration 20. Continually asking for more food, which directly it is given causes her temperature to rise.

15th.—Going on well. Arm still stiff. Ordered sulphate of quinine, two grains; dilute sulphuric acid, two minims; water to one ounce, three times a day.

March 2nd.—Going on well. Can move her arm. Leg stiff. Full diet. Repeat mixture.

20th.—Happening to be again in Madras, I paid her a visit, and found a very great change for the better. She was quite plump, although still asking for more food. She recognised me directly. Temperature same in both axillæ, but there was a marked difference between the legs, the right leg being much colder than the left. She could use both hands, and I could not distinguish any difference between them when she tightly grasped my hands.

24th.—I saw her again to-day. Temperature in both axillæ 99·8°. Both legs seem of the same temperature to the hand; can sit up in bed, but has to support herself with her hands; can lift her legs; sensation slightly impaired; can feel the point of a pin, when it is gently placed against the skin, as low down as the lower third of the right leg; sensation normal in the left leg.

26th.—Complains of burning in eyes and pain in head; tongue white; skin hot. Temperature 101·2°; pulse 112. Spoon diet; one pint of boiled rice. Ten grains of acetate of potash, ten minims of spirit of nitrous ether, and twenty minims of solution of acetate of ammonia, in an ounce of water, three times a day.

On the 28th she had an eruption of measles; and on April 5th she went home for a week. Is to report herself at hospital every now and again. Cannot walk yet, but her legs are improving very rapidly.

Remarks.—The chief features in this case are the length of time the patient was insensible (thirty days), the warmth of the body on the paralysed side, the extent of the internal injury, and the rapid recovery from it. The resistance offered by the right arm when attempts were made to extend it points, I think, to an irritative form of brain lesion, and the peculiar attitude—lying on one side with all parts of the body flexed, so characteristic of brain irritation—seems to bear out this idea. The patient, when sensible, was always asking for more food, and directly it was given the temperature rose. Unfortunately I could not test the irritability of the paralysed muscle, as I had no battery. The intercurrent attack of measles no doubt retarded her recovery somewhat.

PRACTICAL NOTES ON THE TREATMENT OF PHTHISIS.

BY REGINALD G. ALEXANDER, M.A., M.B.,
SENIOR PHYSICIAN TO THE BRADFORD INFIRMARY.

IN our large manufacturing towns, phthisis, in its various forms, constantly presents itself, and we are called upon to treat those who are unable to seek a more genial climate. The modern treatment—that which regards the morbid state upon which the disease depends and not the symptoms—has been followed by marked success.

Phthisis is a disease of debility, the result of defective nutrition, depending not altogether upon an insufficient supply of nutritive food. The food may contain all the elements necessary for preserving a normal state of the blood, but if that blood is not properly aerated by the lungs, and purified by the secretory and excretory organs, nutrition becomes defective. The lungs are respiratory and decarbonising organs, the skin and liver assisting in these processes to the great relief of the lungs. The skin, on account of its extensive surface, large nervous and vascular supply, and as the greatest absorbent and exhalent surface of the body, has most important and intimate relation to the lungs. This is proved by Bischoff's experiments upon frogs. He removed the lungs of a frog, and found that a quarter of a cubic inch of carbonic acid gas continued to be excreted in six hours from the skin, half a cubic inch only being excreted by lungs and skin when acting together during the same time. It is also well known that animals whose skins are covered by an impermeable varnish soon die asphyxiated. The skin and lungs are the organs by which oxygen—that most important of all substances to life—is introduced; the exact amount by the skin is uncertain, but, from experiments upon animals, we infer its respiratory action in man is considerable.

In the treatment of phthisis, our great aim must be *to improve nutrition by improving the general health*. The diet must be as nourishing as the patient's weak digestive power will allow. The food is to be thoroughly masticated and insalivated (not washed down by tea and hurtful diluents). The air of bedrooms and sitting-rooms must be kept pure, and as little gas used as possible. The function of the skin stimulated by an occasional Turkish bath, and also by the daily use of sponging with salt and water. Sea-salt may be given to hospital patients to encourage cleanliness. If the skin can relieve the imperfectly-acting lungs, how necessary to increase its function. These are some of the measures which benefit the dyspepsia of phthisis, one of the earliest premonitory symptoms, and one of the most obstinate. Medicine plays an important but secondary part in this disease. Our object being to improve digestion and nutrition, nauseating drugs—opium, squill, ipecacuanha—must be seldom used. The early dyspepsia is best treated by salines with strychnia, followed by acids, such as phosphoric acid, and quinine. As a rule acids agree best, for although there is excess of acidity in the stomach, it has been shown that it can be checked by the use of acids given *before meals*, an explanation of their undoubted benefit in phthisis. Cod-liver oil, cream, cod-liver oil jelly, pancreatic emulsion, suet dissolved in milk, are all beneficial; but small doses should be given at first, directly after meals. The hypophosphites of lime and soda give good results in some advanced forms of unilateral phthisis. Much has been done to improve the hygiene of all classes, but much remains to be done, and

these *preventive measures* alone can help us to stamp out a disease so hereditary in its nature. Animals confined in menageries and zoological gardens die phthisical from lack of air and light, and we are painfully struck with the unhealthy state of the workshops of our large towns. Some are cellars, damp, dark, and cheerless, killing by inches the occupants; cottages, and even better houses, with unopening windows. This is a subject of great scope and importance for medical officers of health to take up who have already done so much towards stamping out zymotic disease and checking the spread of typhoid fever, &c., throughout the country. Such treatment as briefly sketched is the only one suitable to early phthisis, and even in advanced cases we must not despair. By perseverance in the right way, even when the lungs are very seriously injured, the tubercle may become absorbed or "cornified," and rendered inert; and our post-mortem rooms often exhibit lungs with a cicatrix at their apices, clearly indicating that a curative process has taken place, even in the last stage of the disease.

Bradford.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum, tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

MIDDLESEX HOSPITAL.

CASES OF FRACTURE OF THE BASE OF THE SKULL.

(Under the care of Mr. HULKE.)

THE following report completes the series of cases of fracture of the skull begun at page 689.

CASE 4. *Extensive fracture of the base of the skull by a fall upon the street pavement, probably in an epileptic fit; bleeding and serous oozing from the ear; diffuse meningitis; death on the fifth day.*—The extent of the injury to the skull in this case is remarkable, occasioned as it presumably was by a simple fall upon the pavement—not from a height; for it can hardly be reasonably entertained that the man had been struck a violent blow on the head in the open street at midday without its having been witnessed by others; the motive of theft, too, was wanting, and his character was inoffensive and good. It was ascertained that he had been epileptic for eight years, and that the injury to his elbow had been sustained in a fall about two months before the present accident. It is noteworthy, in relation to the epilepsy, that no morbid appearances were visible in the brain or its membranes which could be assigned to a date earlier than the injury for which he was admitted into the hospital. The diffuse meningitis to which his death is referable started apparently from the fractured pars petrosa of the right temporal bone. No explanation was found for the sudden strong spirt of blood from the ear on the fourth day; no wound of the carotis interna was found, and the cessation of the bleeding forbids the supposition of such source. The blood-pressure in the cerebral sinuses is known to be sufficient to expel their contents in a strong stream to the distance of more than one foot.

Soon after midday on Jan. 2nd, a working jeweller, aged twenty-five, was found insensible upon the street pavement, a few yards distant from the door of his lodgings. The police brought him to the hospital; on reaching it he was still unconscious. Above the right ear was a small scalp-wound, not reaching the bone, in which no irregularity suggestive of fracture could be felt with the finger. Blood trickled from the auditory meatus. Over the outer border of the right orbit was a slight graze, and under the conjunctiva of the eye blood was extravasated. The right elbow was stiff, and it was discoloured by an old bruise. Whilst being taken into the ward he vomited a coffee-ground-like fluid with some red blood-clots, and became conscious. In the afternoon his temperature in the armpit was 99° Fahr., and at 9 P.M. it had risen to 100°. The hair was cut, ice kept on the head, and thirty grains of compound jalap powder were given him.

On the 3rd the bloody appearance of the fluid oozing from the right auditory meatus had changed to serous. This ear was quite deaf. He had had a restless night, and complained of intense headache, which was somewhat relieved by lying on the left side. The bowels not having acted, a compound colocynth pill was given, followed by a draught of compound infusion of senna, which purged him freely.

Next day the headache was still intense, and the temperature was high. Six leeches were placed on the right temple, and mercurial ointment was rubbed into both arms. The leeches were repeated later in the day.

On the 6th, early in the morning, the nurse was alarmed by the spouting of bright-red blood from the right auditory meatus. She stated that it was thrown out to some distance, and was not a welling-up or oozing; the amount was guessed at two ounces. The bleeding ceased spontaneously, and did not recur. Till then the serous discharge noticed on the second day had persisted. Throughout this day (the fourth after the injury) his mind wandered, but in the evening when impressively spoken to he gave apposite answers. In the night he became very delirious. At 9 P.M. the temperature was 99°. At 4.30 A.M. on the 7th he was convulsed, his face was blue, and he died.

Necropsy ten hours later.—Weather cold; ground covered with snow. Above the right ear was the scalp wound mentioned above, one inch long. About it, and also under and in the temporal muscle, was extravasated blood. A crack, two inches long, descended vertically through the parietal into the pars squamosa. From this a fissure crossed the pars petrosa, cutting the meatus auditorius internus, and ending in the foramen lacerum posticum basis cranii. From the meatus a second crack ran forward into the foramen lacerum medias. Other cracks joining these circumscribed a lozenge-shaped piece of the upper surface of the pars petrosa, which was quite detached. On lifting this as a lid the tympanum and labyrinth were seen plugged with blood-clot. A large blood-clot, which had its source in a large posterior branch of the middle meningeal artery, was found upon the outer surface of the dura mater in the temporal region, beneath which the cerebral convolutions were flattened. In the left side of the skull, opposite to the direct injury, under the dura mater lining the pars squamosa, was a small clot, of the size of a flattened filbert. The convolutions of this temporo-sphenoidal lobe were superficially ecchymosed. The basal pia mater was congested, and its web was infiltrated with a sero-purulent, opaque, yellowish fluid. On the arachnoid, over the pons and medulla, was a thin film of exudation, and the lateral ventricles contained about four ounces of sero-purulent fluid.

CASE 5. *Fall off two steps; copious bleeding from the ear and other symptoms strongly suggestive of fracture of the base of the skull; recovery.*—In this case the recovery of the patient gave no opportunity of verifying the diagnosis, but the occasion of the injury—a fall on the back of the head off two steps; the profuseness of the bleeding from the ear, to the extent of saturating his clothes, its continuance during several hours, and its replacement by a serous oozing; the deafness, much greater than could be fairly attributed to the rent in the membrana tympani and to the damping of the vibrations of the auditory ossicula by entangled blood-clot, and its continuance, together with the long stupor—concur in justifying the belief that here a fracture of the base of the skull crossing the left petrosal bone had occurred.

On the 20th March, 1875, a large, heavy man, aged thirty-three, fell backwards off two steps of a doorway on to the street pavement. He was taken up insensible and brought to the hospital. On reaching it he had already so far regained consciousness that he answered when spoken to, but it was necessary to raise the voice, indeed to shout; and his reply was not always suitable to the question. When his attention was not thus roused he lay as in a deep stupor. Blood was issuing freely from his left ear, and by the amount upon his clothes it was plain that he had lost a large quantity. The most careful examination of the vertex and sides of the head failed to detect any mark of fracture or even a bruise. At nine o'clock the same evening he was still in the same stuporose state, but he occasionally tossed restlessly about and groaned. The blood still oozing from the ear was thinner and more serous. The left pupil was now widely dilated; at the time he was admitted both

pupils were contracted. Not having micturated, his bladder was emptied with a catheter.

Next day oozing from the ear had ceased. The man was still very drowsy. Temperature 99·8°; pulse 80. Ice was now kept on the head. On the 22nd there was extreme tenderness on and above the left mastoid process. Six leeches were put on this spot. Next day there was less tenderness and pain; less drowsy. He complained that his left ear was deaf.

On April 6th a laceration in the upper part of the membrana tympani was detected.

Three days after this note he was permitted to go home, and enjoined to report himself from time to time, which, however, he failed to do. It is believed that had he not quickly resumed work, recourse to the hospital would soon have been had for advice.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.

CASE OF SEVERE NEURO-RETINITIS IN BOTH EYES, FOLLOWED BY SEPARATION OF BOTH RETINÆ; REPEATED TAPPINGS.

(Under the care of Mr. MACNAMARA.)

FOR the following notes we are indebted to Mr. J. G. Mackinlay, registrar.

E. S——, aged twenty-seven, attended as an out-patient Sept. 3rd, 1878. She had been married between five and six years, and had had three children born at full time; the eldest died in convulsions when two months old, the other two were living, and appeared healthy. She had had no miscarriages, and had always had good health. Was about six months and a half advanced in pregnancy. She stated that vision began to fail in the right eye about ten months before, and had gradually got worse. The left eye began to fail about six or eight weeks before. With the right eye she read Jaeger No. 20 with difficulty; with the left, Jaeger No. 8 at six inches; V = $\frac{6}{100}$. On examination with ophthalmoscope the right disc could not be seen, but the vessels were visible coming out of a large dense white effusion which ran across a portion of disc obliquely, and for some distance above and below it. The left disc could be seen; vitreous hazy, and had fine movable bodies in it; no effusion of white lymph on retina. No albumen in urine. Ordered mixture of perchloride of iron with quassia.

Sept. 17th.—Conditions the same. The husband attended to-day, and stated that he had a sore (for which he was cauterised) some three months before his marriage, but no history of any secondary symptoms could be obtained. The patient was ordered to continue mixture with a drachm and a half of perchloride of mercury added to each dose.

Oct. 22nd.—Treatment has been continued. The upper (apparent) edge of the right disc could now be faintly seen, still there was a dense mass of white effusion over portion of disc, and a thinner extensive mass of effusion around it, and portions of vessels seen here and there plunging in and out. The left disc still could not be seen; numerous small and some large floating bodies in the vitreous, and the retina was separated for about its inner fifth.

On Oct. 29th the right eye read Jaeger No. 20 at six inches, the left eye read Jaeger No. 16 at five inches. Separation of retina was noticed to-day in the right eye for about its lower and inner fifth.

The patient did not attend between Oct. 29th and Jan. 7th, 1879, but sent for her medicine. She was confined on Dec. 13th. The labour passed off well. Child was stated to be healthy; the mother was not nursing it. She stated she had an attack of inflammation in right eye a fortnight ago; the pupil was now small, irregular, and quite immovable to light. The iris was somewhat discoloured, the globe slightly injected, and especially so round the ciliary region; vision was reduced to *nil*. In the left eye the pupil was large, and acted somewhat to light; vision equals perception of light.

On Jan. 14th she was admitted. The injection of the right globe was less; the other conditions of both eyes were unaltered. Under ether Mr. Macnamara, with a Graefe's knife, punctured sclerotic of left globe at inner and lower part, about half an inch from margin of the cornea. No fluid escaped, and the knife was inserted about a quarter of an inch further back, and fluid (not considerable in quantity) then welled up under the conjunctiva. Mr. Macnamara then tapped the right globe with Graefe's knife, puncturing the sclerotic at outer and lower part of globe about three-quarters of an inch from margin of cornea; fluid at once welled up in considerable quantity, and Mr. Macnamara then made a small slit in the conjunctiva half an inch away from the puncture, and allowed most of the fluid (which was of a pale yellow colour) to escape. In both operations the knife was slightly rotated after its entrance into the globe. The eyes were padded. No sickness after the ether.

On the 15th both globes were somewhat injected; with the left eye patient could count fingers at fifteen inches and distinguish a half-crown piece.

On the 21st July patient left the hospital. She stated that she decidedly saw better, and could find her way about the ward.

On the 29th vision in right eye was unimproved, but with left eye she could read Jaeger No. 20 at six inches. The detached retina was still seen in the same position, but not extending so far up.

On Feb. 11th the left eye read Jaeger No. 20 with difficulty at five inches. Between this date and the 25th she miscarried.

On March 4th the retina was more detached in the left eye; the separation extended over almost the whole of the inner side of the fundus. She could still with difficulty make out Jaeger No. 20. She was admitted, and, under ether, Mr. Macnamara again tapped through the sclerotic with Graefe's knife and evacuated a quantity of yellow fluid, most of which was left under the conjunctiva. There was slight sickness after the ether, and next morning the globe was much injected.

On the 11th she thought her sight was not much better. The globe was still injected. She left the hospital.

On April 8th the right globe was quiet, but was getting soft. The fundus could not be seen. Vision equal to doubtful perception of light. In the left eye the retina appeared in much the same condition as before; if anything, detachment had rather increased. Vision, Jaeger No. 20 at six inches, with difficulty. Tension of left eye normal.

On May 13th the retina was still more detached in left eye; could only see fingers move. She was admitted, and Mr. Macnamara again tapped through sclerotic as before, and evacuated fluid. There was very little injection of globe after the operation. The patient left the hospital no the 17th. V = counting fingers.

On the 27th the right globe was getting very soft. With the left she saw fingers move, and retina was as much detached as ever.

The general treatment was sometimes for weeks together the perchloride of mercury in drachm and a half doses, with iron, this being occasionally omitted for a time, and small doses of strychnine given.

ASHTON-UNDER-LYNE DISTRICT INFIRMARY.

COMPOUND FRACTURE OF RIGHT SUPERIOR AND INFERIOR MAXILLÆ, WITH COMPOUND DEPRESSED FRACTURE OF SKULL AND HERNIA CEREBRI; RECOVERY.

(Under the care of Mr. HOPWOOD.)

FOR the notes of this case we are indebted to Mr. S. J. Rennie, the house-surgeon.

W. McC——, aged twenty-eight, bricksetter, was admitted July 30th, 1879, for injuries. He was engaged in removing the centre support of the arch of a brick-kiln, and before he could get out of the way the arch fell, and the patient and another man were buried in the ruins. The arch was about nine feet high from the centre to the ground.

On admission the patient had a large ragged wound across the right side of his face, from his nose, one nostril of which was torn open, to his ear, passing beneath the margin of the orbit. There was found to be a compound comminuted fracture of the right superior maxilla, which had evidently been caused by a large stone smashing his face. The line of fracture ran through between the central incisors, and the antrum was opened into. The fracture then ran beneath the orbit to the malar bone, which was comminuted, and the zygomatic arch broken. The coronoid process of the lower jaw was broken off, and there was a depressed fracture

of the temporal bone just above the zygoma, from which the brain protruded to about the size of a strawberry.

The coronoid process of the lower jaw, and the broken zygoma were removed, the protruding brain matter was shaved off, and the temporal bone, which was slightly driven in, was easily elevated with the tip of the finger. The wound was then washed out with carbolic lotion, several splinters of bone removed, and the parts brought together by sutures, a drainage-tube being introduced. Carbolic lotion as a dressing was applied, a wedge placed between the teeth to elevate the upper jaw, and the whole secured by a four-tailed bandage. Temperature 99° Fahr.; pulse 62, full, strong, regular. Ordered six grains of calomel with six of compound ipecacuanha powder. Head to be shaved, and an ice-bag applied.

The patient was perfectly sensible when brought in, and thought he was only slightly hurt. There was no shock, nor had there been any. The pupils were perfectly regular, there was no paralysis of the facial muscles, and the patient expressed himself better as soon as his injuries had been attended to.

Next morning the temperature was 98·6°; pulse 62. He felt better. There was some redness about the margin of the wound. Bowels not opened. The calomel and ipecacuanha were repeated; and one-tenth of a grain of tartarised antimony was given every four hours in an effervescing saline mixture; ice to suck; milk and beef-tea. Mouth and nose to be washed out twice daily with Condy's fluid. Evening temperature 99·2°; pulse 64. The bowels were opened once freely. Had one-fourth of a grain of morphia hypodermically.

August 1st.—Morning: Temperature 98·4°; pulse 66. Slept well. Wound looking well. Bowels not opened. Ordered saline aperient mixture. Evening: Temperature 98·2°; pulse 63. Taken milk and beef-tea well. Bowels opened once freely since aperient. Pulse rather irregular and bounding. A quarter of a grain of morphia injected hypodermically.

2nd.—Still feels better. Some redness about neck, but wound looked well. One or two sutures removed. Bowels not opened. Calomel and saline aperient repeated.

3rd.—Morning: Temperature 98·6°; pulse 70, full and compressible. Still improving. Redness about wound less. Wound syringed with Condy's fluid. Bowels opened twice during night. Slept well.

4th.—Better. Wound looking healthy; several sutures removed; dressed as before. Takes milk and beef-tea freely. Tongue clean. Temperature 98·5°; pulse 75. Ordered the calomel and white mixture as before.

6th.—Slept fairly; feels better. Several enlarged glands had made their appearance in his left arm, evidently caused by the irritation of the hypodermic injection; these were painted with iodine.

On the 8th the enlarged glands had disappeared; drainage-tube removed. Wound, from nose half-way, healed, other half granulating, having been kept open by drainage-tube. Tongue clean; bowels regular. Temperature 98·2°; pulse 68. On the 9th he said he felt as well as ever he did in his life. On the 10th the wound was brought together by strapping. Allowed meat, shredded fine, and oatmeal porridge with milk.

14th.—Temperature 97·6°; pulse 76. Still progressing favourably; wound three-quarters healed, rest granulating rapidly.

On the 23rd he was allowed to get out of bed. On the 27th the wound was entirely healed. On Sept. 1st he was convalescent. He had some stiffness on trying to move his lower jaw, and there was some tenderness still during mastication. There is a slight sinking in along the line of fracture, but very little deformity, considering the frightful nature of his injuries.

On Oct. 14th he was seen. He was quite well and working regularly; there was very little disfigurement.

Remarks.—The interesting features of this case are, the enormous amount of injury sustained, with absolutely no symptom of any moment; and also that it is an illustration of the fact that comparatively large portions of the convolutions of the cerebrum may be removed without any bad results. It shows the value of the careful removal of all, even the minutest, splinters in cases where there is a compound comminuted fracture of a thin bone like the wall of the antrum, and the use of frequent syringing of the wound, to remove, as soon as formed, any discharge which might become a source of irritation.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Multiple Sarcomata of Skull.—Primary Sarcoma of Liver.—Arrested Growth of Tibia due to Injury of Epiphysis.—Fatty Degeneration of Heart from Anæmia.—Suppurative Myocarditis in Scarlatinal Nephritis.—Peculiar Rash on Tongue.—Vesical Calculus formed around a Hair-pin.

THE ordinary meeting of this Society was held on the 18th instant, Mr. J. Hutchinson, President, in the chair. Amongst the specimens exhibited, one of suppurative myocarditis in a case of scarlatinal nephritis by Dr. Goodhart, and one of a curious evanescent rash on the tongue by Mr. Barker, gave rise to the chief discussions of the evening.

Dr. ABERCROMBIE showed a specimen of Multiple Sarcoma of the Skull. It occurred in the form of three large rounded tumours on the vertex, with the periosteum stretched over them, and many smaller patches penetrating the inner table. In the posterior and middle fossæ at the base of the skull, and also on the left of the sella turcica, were other masses. One mass invaded the left cavernous sinus, and extended thence into the sphenoidal fissure. The dura mater adhered to these growths. There was also a growth in the pia mater in one of the cerebral hemispheres. The body of the sternum was also the seat of a tumour beneath the periosteum, and on both sides the iliac glands were swollen and infiltrated. The growth was composed of round cells imbedded in a scanty stroma, and evidently originated from the deeper layers of the periosteum. The patient was a child, admitted into Ormond-street Hospital, under Dr. Gee's care, in June, 1878, after ailing for three months with pain in the abdomen and back. On admission, a small soft swelling was found in the right parietal region, as well as a small mass in the right iliac fossa. As the case progressed, optic neuritis occurred, followed by total blindness. Death took place six months after the onset of illness. Dr. Abercrombie remarked upon the immunity from the growths presented by the thoracic and abdominal viscera.—Mr. BUTLIN had collected a certain number of cases of multiple sarcomata of bones, and found them mostly occurring in young children, and to be round-celled. Of those commencing in the skull, more occurred on the vault than at the base, and, although generally arising in the diploe, they contained but few myeloid cells. In most of the cases death was determined, not by extension to the brain, but by the visceral growths. In one case, observed by himself, growths in the lung and liver were associated with the cranial tumours, and led to death.—Mr. WALSHAM said that he had examined some cases, and found them to be clearly medullary carcinomata, and not sarcomata. (The specimen was referred to the Committee on Morbid Growths.)

Dr. COUPLAND exhibited a specimen of Primary Sarcoma of the Liver, no other organ in the body being diseased. The liver was uniformly enlarged, weighing 300 ounces, and the new growth, which was widely diffused, presented patches of black and grey pigmentation. It was of tolerably firm, elastic, and fleshy consistence, contrasting markedly with what liver-tissue yet remained, and exceeding this in amount. There was no similar growth in any part of the alimentary tract or in the pelvic organs, and beyond basic engorgement and compression the lungs were healthy. The case was that of a married woman, aged thirty-three, who died in the Middlesex Hospital, under the care of Dr. Greenhow, Oct. 3rd, 1879, after an illness of about seven weeks' duration, characterised at first solely by pain in the right hypochondriac and lumbar regions and the right shoulder. When admitted she did not appear to be very ill, but after a week's stay her illness rapidly took a downward course, the margin of the greatly enlarged liver becoming more uneven under observation. The nature of the hepatic change was peculiar and difficult to determine; for, side by side with a type of structure obviously carcinomatous, and plainly evolved from the gland-cells, there were portions as plainly sarcomatous, composed of whorls of

spindle-cells, many of which were pigmented, and, in addition to much free blood pigment, gave rise to the black patches observed on the surface and in the substance of the organ. Not inclined to adopt so heterodox a view as that the spindle-cell tissue was the outcome of a primary epithelial change, Dr. Coupland preferred to believe that this was an instance of an "acute cancer" (in the general sense) of the liver, in which the morbid process affected both the stromal connective and the epithelial elements of the gland. The case thus had bearings on general pathology, but, whatever its true interpretation, it was singular in (1) the character of the new formation; (2) its limitation to the liver, not infecting even the nearest lymphatics; (3) its rapid evolution; and (4) its widespread diffusion within the organ itself. In none of the cases of "primary hepatic cancer" he had met with at the Middlesex Hospital during the past six years, nor in those which had been exhibited before the Pathological Society and the Société Anatomique, did the growth partake of sarcomatous characters, the only case of primary sarcoma of the liver on record being one by Frerichs. At his request the specimen was referred to the Morbid Growths Committee.

The PRESIDENT exhibited a patient showing Arrested Development of the Tibia, which appeared to have followed upon detachment of its lower epiphysis from injury three years ago. The fibula had grown out of all proportion to the tibia. The case was of special interest as an example of dwarfing of the tibia—a rare event, although when the subject was under discussion at the Society some years ago some of the earliest specimens shown were those in which this bone had so suffered.—Mr. RIVINGTON thought from examination of the limb that the injury must have been a little above the epiphysis. This would have the same effect, for it would interfere with the nutrition of the epiphysis. He had recently seen a somewhat similar condition follow upon injury to the radius. In Mr. Hutchinson's case the fibula on the injured side was slightly shorter than that on the sound side.—The PRESIDENT confessed it was difficult at so long a time after an injury to determine its exact seat.

Dr. GOODHART exhibited a specimen of Fatty Degeneration of the Heart from a boy six years old, admitted under Dr. Pavy, at Guy's Hospital, on the seventeenth day of an attack of typhoid fever. The temperature reached 105°. On the nineteenth day there was severe hæmorrhage, which recurred on the twenty-first, together with epistaxis, and death was rather sudden. The heart showed marked fatty degeneration of its muscular fibres, and there was extensive ulceration of the intestines, especially of the colon, whence the hæmorrhage had taken place. The interest of the case lay in the connexion between the anæmia induced by the hæmorrhage and the occurrence of fatty degeneration of the heart. Some cases of such degeneration in fevers could be attributed to the febrile process itself, but here it seemed to be in direct relation to the loss of blood. He had seen four other cases of severe hæmorrhage lead to this cardiac condition. In reply to Mr. Kesteven, he added that the change was in the form of minute granules—not actual fat-globules—entirely replacing the normal striation. Dr. Goodhart also exhibited a specimen of Suppurative Myocarditis in Scarlatinal Nephritis. The case was that of a child three and a half years of age admitted with scarlatinal dropsy. The heart was not obviously dilated; it had a galloping action, and there was no bruit. After death he found diffuse infiltration of pus in the thickened wall of the left ventricle, extending from the base to the apex.—Dr. BARLOW, referring to a paper recently contributed to Guy's Hospital Reports by Dr. Goodhart upon a condition of acute dilatation of the heart in scarlatina, said that he had recently seen a case confirmatory of these observations. A child was brought to the London Hospital seven weeks after an attack of scarlet fever; there was no dropsy, but the heart's impulse was displaced leftwards, its action was irregular, and there was no murmur. Ether and digitalis were prescribed, and the apex beat came to impinge within the nipple line. Then the child was seized with an attack of right hemiplegia, which Dr. Barlow attributed to the detachment of a portion of a thrombus that had formed in the ventricle during its dilated condition, the detachment being induced by the increased power of the ventricle. Dr. Goodhart had pointed out a condition of great importance to which attention had not hitherto been directed.—Dr. THOROWGOOD had that day seen a case of scarlatinal dropsy, with evident signs of enlargement of the left ventricle.—Dr. SAMUEL WEST said that the occurrence of acute dilatation of the heart in fevers had been long ago pointed out by Dr. Stokes, and now Dr. Goodhart had offered a pathological explanation of a clinical fact. He had seen many cases of cardiac dilatation associated with acute fevers; and in the last volume of St. Bartholomew's Hospital Reports he had recorded three cases of rheumatic fever in which this occurred. One of these ended fatally, and on examination not only were the muscular fibres found to be granular and fatty, but there was also a cellular infiltration. To this cause he thought many cases of sudden death in rheumatic fever might be attributed.—Dr. EWART asked Dr. Goodhart whether the suppuration could have depended on extension of inflammation from emboli in the walls of the ventricle. He observed that there were foci of pus, whence the diffuse suppuration may have extended.—Dr. GOODHART did not think it possible to say how it had started. Emboli in scarlatina tended to suppurate, but it was unusual to get them in the muscular substance.

Mr. BARKER exhibited drawings of a Peculiar Rash on the Tongue, which he had met with in two children. The only case at all analogous to these was referred to in Fairlie Clarke's work as a case of ringworm on the tongue of an adult, met with by Sir James Paget. In the present cases the eruption commenced as a small red spot, which assumed a circular or crescentic form, and was most erratic, appearing and disappearing within a few hours. It was accompanied by intense itching and a copious flow of saliva. The rash was invariably seated on the dorsum of the tongue. It presented a slightly raised chafed surface, and left the part which it invaded smooth and purplish, and superficially it had a close resemblance to ringworm; but, although frequently examined, he only found evidence of a fungus on one occasion in one of the cases, the organism having some resemblance to tricophyton tonsurans. The condition had lasted in the one case for two years and a half; in the other for upwards of a year, coming and going at frequent intervals, and in very short spaces of time. In reply to Dr. Morrison he added, that one of the children was three years old, the other about two years.—Dr. MORRISON had seen a rash on the tongue in teething children which he attributed to the irritation produced by the eruption of the molars.—The PRESIDENT said the subject was interesting, and almost novel. About a year ago, at Moorfields Hospital, Dr. Gunn asked him to see a child with some ringed patches on the tongue, but they so rapidly disappeared that they had faded before he came to see them. He believed that case was similar to Mr. Barker's, and since then he had seen one or two others, and had failed to detect any fungus. Mr. Barker had sent one of his cases to him to see, but the eruption had gone when the patient came to him. In Paris, last May, M. Lailler, at St. Louis Hospital, showed him a case of a child who had ringworm of the scalp and some circinated patches on the tongue. M. Lailler said the condition had been described by a French surgeon under the title of "lichenoid of the tongue," but Mr. Hutchinson had not been able to find the work. The museum of St. Louis Hospital has a model of this condition, and M. Fournier told him that no special significance was attached to it, except that it was generally thought to be due to indigestion. Certainly one could not help being struck by the fact of the difficulty in finding the fungus, if it were due to this.—Mr. PARKER had recently seen some similar patches on the tongue associated with cutaneous urticaria, and he suggested that the lingual condition might be of this nature.—Dr. GUNN said that there was a suspicion of syphilis in his patient.—Mr. BUTLIN asked what were the powers of the microscope employed by Mr. Barker; numerous fungoid parasites occurred naturally on the tongue, but they were of smaller size than the ringworm fungus.—Mr. BARKER said that he used Hartnack syst. 9, ob. 4.—Dr. LEES asked whether there was evidence of syphilis in the cases. He had seen in cases of congenital syphilis patches on the tongue which varied from day to day.—Dr. POWELL doubted whether it were feasible for an eruption due to a fungus to be so variable as in Mr. Barker's cases, changing almost hourly.—Dr. BARLOW thought Mr. Parker's suggestion attributing an urticarial character to the rash to be to the point. The itching and evanescent character of the rash favoured this. The patches seemed to differ from those of congenital syphilis, where there is a superficial loss of substance with marginal heaping up of epithelium.—The PRESIDENT did not know of any syphilitic eruption having such evanescent characters.—Mr. BARKER,

in reply, said that lichenoid would not apply to the eruption. In one of the cases some lichen on the legs was cured by arsenic, and the condition of tongue aggravated by it. He did not wish to be understood as favouring the parasitic hypothesis; he thought the occurrence of the fungi to be accidental. The father of one of the children was syphilitic.

Mr. SWAIN (of Devonport) exhibited a Calculus removed from the bladder of a female child ten years of age by suprapubic operation. The child had been in the habit of passing hair-pins into the vagina, and one of these was introduced into the bladder, and excited inflammation and suppuration in the vicinity, the abscess discharging in the groin. Eight months later she came under Mr. Swain's care at the Royal Albert Hospital, and, on sounding, he found that a large stone filled the bladder. Failing to extract this by lithotrity after dilatation of the urethra, he performed suprapubic cystotomy, and removed a large phosphatic calculus, within which a hair-pin was firmly imbedded. The operation was done with antiseptic precautions, the wound closed by catgut sutures, and the case made a good recovery, the child leaving hospital a month after the operation. Mr. Swain also showed a large calculus which he had extracted from the bladder of an old man after death. Owing to the greatly sacculated condition of the bladder, the first attempts at sounding failed to reveal the presence of the stone, which, however, could be felt per rectum. The patient died a few days after admission from uræmia, before operative interference could be resorted to.—Mr. RIVINGTON asked whether the second patient suffered much from frequency of micturition, and quoted a case where four calculi occurred in the bladder, and this symptom was most prominent.—Mr. SWAIN did not remember if there was great frequency of micturition. The sacculated condition doubtless allowed plenty of room for urine to collect. But in a case from which he removed four calculi a short time ago frequent micturition was very distressing, and the patient had recourse to hypodermic injections of morphia until he reached a daily dose of fifteen grains of the drug.

The PRESIDENT then read the list of specimens shown "by card," and invited each of the exhibitors in turn to make any further comments he desired.—Dr. PEACOCK, who showed two examples of Congenital Malformation of the Heart, said that one of these, a specimen showing stenosis of the pulmonary artery with the aorta arising from the right ventricle, was sent to him by Dr. Barlow. For the other specimen he was indebted to Dr. C. Reed. In that specimen the trunk of the pulmonary artery was absent, and a large vessel (presumably the ductus arteriosus) springing from the aorta had apparently replaced it, as was usual in such a condition.—Dr. CROCKER also made some remarks concerning his specimens.

Specimens without oral communication.

1. Bifid Uterus and Double Vagina. By Mr. Walsham.
2. Malformation of Heart; absence of Pulmonary Artery. By Dr. Peacock.
3. Malformation of Heart; Aorta arising from Right Ventricle. By Dr. Peacock.
4. Aneurism and Rupture of Aortic Valve. By Dr. Orlebar.
5. Congenital Disease of Heart. By Dr. Crocker.
6. Complete Occlusion of Aortic Orifice by a Fibrinous and Calcareous Mass; Perforation of one of the Aortic Valves. By Dr. Crocker.
7. A Brain hardened and prepared by Giacomini's Method. By Dr. Gowers, for Dr. Osler, of Montreal.

CLINICAL SOCIETY OF LONDON.

Congenital Sebaceous Disease of Scalp.—Acute Double Ophthalmitis treated by Mercurialisation and Duboisin. Removal of Frontal Bone, Left Wing of Sphenoid, Ethmoid, large part of Superior Maxilla, and one Eye.—Perforating Wound of Lung.—Keloid in Small-pox Scars.—Morphœa.—Portwine Mark treated by Linear Scarification.

THE ordinary meeting of this Society was held on the 14th inst., Dr. Greenhow, F.R.S., President, in the chair. A larger number of cases than usual was brought forward, including some rare examples of cutaneous diseases. A remarkable instance of universal keloid following small-pox was brought forward by Dr. Goodhart, and led to a discussion, in the course of which Mr. Squire avowed his belief in the distinctive characters of syphilitic keloid—a belief not shared by others who spoke. A case of very extensive syphilitic necrosis of the facial and cranial bones was read by Mr. Norton, and the patient was shown; but debate on it was postponed until the bones removed were before the Society.

Dr. RADCLIFFE CROCKER read notes of a case of Congenital Sebaceous Disease of the Head and Neck. This was a case in which a male infant, six weeks old when brought to University College Hospital, was born with patches on the skin of the occiput, left side of the head, both cheeks, and the front of the neck, this last joining by processes those on the cheeks. Small patches existed on the left ala nasi and inner angle of the orbit, and in the vicinity of the large patches. The patches varied much in size, the largest on the occiput measuring nine inches and three-quarters by two inches and three-eighths in its greatest diameters, the smallest about a quarter of an inch in diameter. They were irregular in shape; narrow processes branched off them, and showed signs of being formed by coalescence of several into one by small sulci, sometimes with a slightly-raised edge at the borders of the sulci. The whole patch was slightly raised, the edges more than the rest, and these edges consisted of comedones, with their usual black tops. These were also seen, but not so close together, on the borders of some of the dividing sulci, and occasionally one or two sometimes suppurating on the surface. The general surface at first sight appeared smooth, but on looking at it closer it was seen to be finely granular, a pale yellowish-red, but varying in tint, growing redder when the child cried, and paler when exposed to cold. The patches on the scalp were quite hairless. They had not increased in size since birth, and the mother thought they were decidedly less prominent, but not smaller. The child was well nourished, the skin was healthy, except for these patches, and had not had any other kind of eruption. There were no snuffles when first brought to the hospital, but it caught cold three days after, and then snuffled slightly. There was no evidence of syphilis besides this, either in the infant or his sister three years old, the last being in good health. The mother had not been ill, or even ailing, since her marriage, five years before, and the father had never had a day's illness for the seven years she had known him. The presence of comedones on the edge and occasionally on the surface, suppurating like ordinary acne, points to its being of sebaceous origin, and, though the surface might be of a different nature, the individual granules have much the appearance of milium on a small scale, with a yellowish tint. The case appears to be unique.—Dr. DYCE DUCKWORTH had seen this patient at a former meeting of the Society. He remembered that there was then a suspicion of syphilitic taint in the child, but from the investigation since carefully made it seemed perhaps fair to exclude it. The disease appeared to involve the sebaceous glands more particularly. It was unique, so far as he knew, and he therefore recommended that the case should be referred to a committee.—The PRESIDENT accordingly nominated Drs. Duckworth, R. Liveing, and Crocker, and Mr. Hutchinson to form a committee to report upon the case.

Mr. SPENCER WATSON read notes of a case of Ophthalmitis (double), treated by duboisin and mercury. Both eyes of a woman, aged thirty-seven, were seized, one a few days after the other, with acute opthalmitis, with severe pain, tenderness, and inflammatory redness, but no purulent discharge from the conjunctival surfaces. The sight was so nearly destroyed that the patient had to be led into the waiting-room. Duboisin drops were used freely and frequently after the failure of atropine, and at the same time mercury was administered by inunction and by the mouth. The gums became tender in a few days, and simultaneously an improvement took place in the condition of the eyes, the sight gradually improving in both, so much so that by the eye last and less severely affected good-sized type was distinguishable, and she could do needlework at the end of a month's treatment. The duboisin drops produced full dilatation of the pupils, and though used at intervals of only two hours for some days, no toxic effects were observed,

such as have been noticed by other surgeons. The highly congested state of the conjunctival and ocular vessels may have been an impediment to the rapid absorption of the drug, and the usual constitutional symptoms may have been prevented from this cause.—The PRESIDENT remarked that the case had little analogy with the rare condition occasionally supervening on the febrile process in cerebro-spinal meningitis, to which the author had compared it.

Mr. NORTON read notes of a case of Removal of the Frontal Bone, Left Wing of Sphenoid, Ethmoid, large part of the Superior Maxilla, and one Eye, followed by complete restoration to health. The patient, a strumous man about thirty-five years of age, contracted syphilis in June, 1866, for which he was treated with mercury and afterwards with iodide of potassium. In 1868 he had an attack of arthritis in the left knee, followed five years later by anchylosis. His intemperate habits and exposure to weather led, at Christmas 1873, to an attack of laryngitis, and then to necrosis of nasal bones, left palate, and superior maxilla; portions being removed from time to time. In June, 1876, he first came under the care of Mr. Norton, who found extensive necrosis of the ethmoid bone. He prohibited stimulants, abandoned the iodide, gave tonics, and kept the patient in a uniform temperature. Other portions of bone continued to come away, and in October he extracted through the nose the left wing of the sphenoid bone. Necrosis now began to invade the frontal bone, and its separation took a long time. At length, in Feb. 1878, Mr. Norton made an incision from the root of the nose to the sagittal suture, and laid bare the frontal bone, the necrosed anterior part of which he entirely removed, as well as the horizontal portion of the ethmoid and the roofs of both orbits; at the same time the left eye was also removed. Granulations sprang up, and healing slowly took place; some difficulty being experienced from inability to raise the right eyelid, but this eventually was to a slight extent overcome. Mr. Norton remarked upon the surprising fact that health should have been maintained during the prolonged suppuration. Much of the discharge must have found its way into the stomach. It was also remarkable that no brain symptoms followed, seeing that only cicatricial tissue intervened between the dura mater and the surface. He attributed much of the success to the care taken to avoid exciting causes of inflammation, especially changes of temperature. [The patient was shown.]—Mr. HEATH asked for specimens of the bones removed.—Mr. NORTON said that he had not preserved them all, but promised to bring the main portions before the Society. — Mr. BRYANT suggested the postponement of the discussion until the bones were shown, for one point of interest was the extent to which new bone had been formed in the frontal region, whereas, as a rule in syphilitic necrosis, no new bone is thrown out.—The PRESIDENT concurring, it was resolved that the discussion on the case should be adjourned until the next meeting, when Mr. Norton would exhibit the specimens of bone.

Surgeon-Major ALCOCK communicated Notes of a Case of Gunshot Wound of the Lung, which was read by Dr. C. T. Williams. The patient, a trooper, was struck by a rifle bullet on May 8th, 1878, in an engagement in the Transkei war. He was removed to the field hospital, two and a half miles distant, in a very exhausted condition, and a bullet wound was found passing through the thorax from the fourth right interspace in front, to the ninth rib behind, an inch and a half from the spine. Air and blood escaped from the wound, and there was free hæmoptysis. Under oakum dressing, perfect rest, free drainage, and favourable hygienic conditions, the case made a good recovery; some dulness on percussion persisting at the right posterior base. Surgeon-Major Alcock remarked on the value of free drainage, and in support of this stated that on one occasion, when the bandage was drawn too tightly, grave symptoms were induced. The climatic conditions and the ample ventilation of the hospital doubtless aided the favourable issue.—The PRESIDENT tendered the thanks of the Society to the author for his interesting communication.—Mr. BRYANT said they were much obliged to the author for the records of a case which conveyed two important lessons—viz., the benefit of non-interference in these chest injuries, unlike the rules followed in older days, and the necessity for free drainage. This was greatly aided in the case by the wound of exit being at the posterior part. If the conditions had not been so favourable it would have been the surgeon's duty to make a freer opening to ensure drainage.—Dr. J. E. POLLOCK said that the case showed that wounds of the lung were not necessarily fatal (provided the large vessels were not injured), and he believed the time would soon come when pulmonary cavities would be treated freely by incision without fear of the risks due to interlobular emphysema, &c. The practice of free drainage in empyema hastened its cure. — Dr. WILLIAMS thanked the Society on behalf of Surgeon-Major Alcock, who was prevented by illness from attending. He pointed out that the climate of the Transkei country (some thousand feet above sea-level) and the free ventilation of the hospital should be taken into account.

Dr. GOODHART related a case of Unusual Development of Keloid in Small-pox Cases, the patient being shown to the Society. He is a boy aged sixteen and a half years, who, being unvaccinated, suffered severely from small-pox in March last. He was ill for four months; and, besides extensive pitting in the face and elsewhere, he suffered from severe bedsores over both shoulders, the sacrum, trochanters, and iliac crests. The keloid condition gradually supervened, and he is now covered with large masses of keloid in the scars, which occur not only on the small-pox scars on the face, forearms, hands, and shins, but also on those which followed the bedsores. A great point of interest was the fact that the keloid masses are certainly diminishing, those on the face and hands especially. The case was exceedingly rare from the universality of the change. There might be an unusual facility for the growth of keloid in the scars of small-pox; and he had observed some five or six cases occur in vaccine marks. He would show the case again in three or four months' time, to see to what extent the diminution had taken place. Believing that keloid has a natural tendency to diminish, he had told the parents that it would eventually disappear, and he hoped for a confirmation of this view from other members. — Mr. BALMANNO SQUIRE thought the case very rare from the universal character of the change. He had seen keloid occur in syphilitic scars, but that was of a different kind from ordinary keloid. It was redder, and he had known it to disappear; but he had often known keloid to persist for two or three years.—Mr. HEATH knew no difference between the keloid in syphilitic subjects, that in non-syphilitic—e.g., that which often follows burns. He had never seen keloid after burn disappear, although he had tried different measures to cause this. He had at present under care at University College Hospital a well-marked example.—Mr. SQUIRE said that Alibert described two forms of keloid—the cicatricial and spontaneous, and the former was, he (the speaker) believed, the syphilitic form.—Mr. GANT thought the markedly symmetrical character of the keloid growth in the present case pointed to some blood-condition underlying it. Sir James Paget had drawn attention to symmetry as evidence of blood-change.—Mr. BAKER said there was a case of morphœa, or Addison's keloid, shown that evening by Dr. Crocker, which offered a contrast to Dr. Goodhart's case. Like Mr. Heath, he had never been able to distinguish between the keloid arising in syphilitic scars from that of simple scars, and it was important not to add to already over-refined dermatological distinctions.—Mr. SQUIRE again insisted that Alibert had described and figured a distinct variety, which he himself believed was the keloid of syphilis.—Dr. DUCKWORTH believed that Mr. Hutchinson held that keloid was almost always, if not invariably, a disease of scars. Alibert's keloid, so often seen over the sternum, sometimes followed application of blisters to that region. He himself had seen a case where keloid sprang up after the application of a blister to the precordium. No scar was to be seen. He had never seen keloid undergo any material change; it seemed rather to spread. In Dr. Goodhart's patient the growth was vascular and softer than usual, so that possibly it may shrink in becoming more fibrous. He had no knowledge of any form of keloid special to syphilis. —Dr. LIVEING thought Hebra mentioned one or two cases of recovery from keloid which had arisen in acne or small-pox scars. He (Dr. Liveing) did not think there was any such thing as "spontaneous" keloid; it was always preceded by scars.—Mr. MALCOLM MORRIS said that in a case on which he operated for portwine mark by scarification, a small keloid growth appeared, without any preceding visible scar. This keloid got smaller in the course of months, and almost disappeared. The symmetry of the growth in Dr. Goodhart's case was very curious.—Mr. SQUIRE had seen keloid arise on the site of a blow, which produced no wound.—Dr. CROCKER had recently had a case of keloid arising in the site of acne scars, and possibly when the growth was over the sternum it had such an origin. In

this case the keloid had existed for two years, and had not altered. He had never seen it disappear. Still some of the patches in Dr. Goodhart's case seemed to be getting more flaccid, and it was quite possible there were different phases of keloid, and he would suggest an histological examination of the patches. Dr. Crocker had also brought to the Society an example of Addison's keloid or morphœa, which illustrated strikingly its distribution along the track of nerves. It consisted of firm raised irregular patches on the arm and forearm along the course of the second intercostal and the internal cutaneous nerves. There was no zone of vascularity to the patches, which were more solid than usual in morphœa. The patient was a girl seventeen years of age, who four years ago first noticed some spots on the flexor surface of the wrist, which thence extended up the forearm. There were also patches in the second and third intercostal spaces. The patient had been under Mr. Hutchinson's care. She was pale and subject to fainting fits and headache, but had never had rheumatic fever nor presented any cardiac disease.—The PRESIDENT suggested that the subject of keloid, with especial reference to its relation to syphilis and to Dr. Goodhart's case, should be referred to the committee he had nominated earlier in the evening, with the addition of Dr. Goodhart. The suggestion was adopted.—Mr. GOLDING BIRD pointed out that the two cases related, which showed a tendency to recover, originated in the scars left by pustular eruptions, and he quoted an instance in which a keloid (raised one-third of an inch) arose in the scar of a boil on the shoulder, and in the course of about five years had disappeared almost entirely.—Dr. T. C. FOX had seen a case in which keloid tumours to the number of thirty or forty had appeared apparently spontaneously all over the body. The removal of the growths, which looked like small mushrooms, was followed by their recurrence on a larger scale. The case had been under observation for fifteen years, and none of the growths showed any sign of improvement.

Mr. B. SQUIRE read notes of a case of Portwine Mark treated by Linear Scarification, the patient being shown. The mark had occupied the upper and lower eyelids and the cheeks. Two operations were performed, a week apart, the lines of the second operation crossing obliquely those of the first. The result was a diminution of the vascularity of the patch, which had been paler than it was that evening. Another part of the mark he had cauterised, and an indelible scar resulted.

Mr. SQUIRE also showed a case of Ringworm on which the *calotte* (a piece of pitch plaster) had been used for epilation. This old-fashioned method was in vogue at Milan, and he thought it, at any rate, lessened the labour of separate uprooting of the hairs.

The Society then adjourned.

MEDICAL SOCIETY OF LONDON.

Penetrating Wound of Knee-joint.—Treatment of Fractured Patella by opening the joint and wiring the Fragments.

THE ordinary meeting of this Society was held on the 17th inst., Dr. Cockle, President, in the chair.

The PRESIDENT exhibited a woman bearing a maternal mark uniform on both sides of the neck, and remarked on the rarity of such symmetrical disposition.

Mr. SPENCER WATSON read notes of a case of Penetrating Wound of the Knee-joint, in which acute synovitis was followed by complete recovery of mobility of the joint. The injury led to the formation of a sinus opening into the joint, whence synovial fluid escaped after probing. Great pain, swelling, and tension of the joint ensued; and Mr. Watson opened it freely, and inserted a drainage-tube. Antiseptic dressings were used, and a splint applied. The patient, a boy aged ten, left hospital in two months, and now there is perfect mobility.—Professor LISTER considered lint and carbolised oil would make an efficient antiseptic dressing, if there were not much discharge from the wound. But when there is profuse discharge, then a more elaborate dressing is required to make the treatment thoroughly antiseptic. He had found Gooch's splint the most useful when treating injuries of the knee-joint antiseptically.—Mr. SPENCER WATSON, in reply, said that the discharge was so profuse that he was obliged to give up the elaborate dressing recommended by Professor Lister, because its application caused so much pain and discomfort, and he used lint and carbolic oil in its stead.

Mr. ROSE related the case of a man from whose bladder he had removed, per urethram, an indiarubber catheter, where it had lodged coiled up for five days. The man did well.

Mr. ROSE then read notes of two cases of Transverse Fracture of the Patella by Muscular Action, with separation of fragments, treated by him at the Royal Free Hospital by cutting into the joint antiseptically and wiring the fragments together. Case 1 was that of a female aged thirty-two, stout and full habit of body, admitted Aug. 9th. The fracture was caused by her making an effort to save herself when falling from a cart. Rapid and excessive effusion into the joint followed, and, her leg being very fat, it was difficult to estimate the exact separation of the fragments, but it was about two inches. Mr. Rose operated on August 27th. The strictest antiseptic precautions were taken. The joint was opened by a longitudinal incision five inches long, over the middle and anterior aspect of the knee. Much dark coagula was squeezed out of the joint. The patellar fragments were then set free a little from their lateral ligamentous attachments, but only sufficiently so to get command over them for drilling. The fractured surfaces were thickly coated with organising material, but there was no continuity between that on one surface and that on the other. A thin slice was taken from each fragment to expose the bony structure and two holes were drilled in each obliquely one inch apart. Care was taken, first, to bring out the point of the awl close to, but not through the articular cartilage, so that the wire sutures should be entirely extra-articular when passed; secondly, to make the two holes in the upper fragment correspond with those in the lower. Thick silver wire sutures were then passed, which were gradually tightened, the rectus being well relaxed by flexing the thigh on the pelvis. In this way the fragments were brought into accurate apposition. A counter opening was then made on each side of the joint at the most dependent part, and skeins of horsehair drawn through to act as drainage. Bleeding was easily stopped, the wound was closed by carbolised silk sutures, the ends of the silver wires were cut about half an inch above the skin level, and antiseptic dressings applied, and a back splint. When the patient was placed in bed, the limb was kept raised on an inclined plane to release the rectus. The after progress was most satisfactory. The temperature never rose above 99°, nor the pulse above 90. The dressings were changed only eight times; the last thread of horsehair was removed on the twentieth day after the operation, and the wires cut down on and taken out on the sixth week. Case 2 was that of a man aged forty-one, a butcher, who broke his right patella in a similar manner on August 9th. Mr. Rose operated as in the former case, and on the same day. The details were alike in each case. Both patients were shown to the Fellows, and in each case bony union had taken place. The man could bend his knee to a right angle, could walk upstairs, and had evidently free use of the rectus muscle. In the woman the movement was limited.—Mr. W. ADAMS thought the results most encouraging and instructive, and maintained that no other method could yield such results. In his original paper in the third volume of the Path. Soc. Trans. he showed, from an examination of specimens in the London museums, that an ununited fracture or a feeble ligamentous union was the rule, and that a firm ligamentous union (almost as good as bony union) was the exception. He had found Malgaigne's hooks useful; they lead to a stout ligamentous union. In the present cases bony union had taken place.—Mr. BRYANT would divide cases of fracture of the patella into two classes—old and recent. In old cases, where the limb is almost useless, it is justifiable to run some risk in order to cure the patient, and in such cases he should consider the operation as detailed by Mr. Rose a safe and justifiable one. But in the second class of cases are the results obtained by the ordinary methods of treatment so unsatisfactory that a severe operation should be at once adopted? Is it the rule to have a useless limb after a fracture of the patella has been treated in the ordinary way? Is it not a fact that the patient may get about very well, although there may be considerable separation of the fragments? He cited the case of a coal-porter, who was able to walk over a plank or go up a ladder with perfect ease, although the separation of the fragments in his case was

nearly four inches. Is it then justifiable to open the joint before less severe treatment has been tried? The result in the man's case was very good; that in the woman's was not so good as he had often seen on the ordinary plan. He considered the plan adopted by Mr. Gould, of dividing the quadriceps tendon, in these cases to be very useful.—Mr. HENRY SMITH agreed that cases of fractured patella should be divided into two classes, as Mr. Bryant had said, and he concurred with him in thinking the operation in question justifiable in old cases, but less so in recent, unless it can be shown that its results are always satisfactory.—Professor LISTER said that Dr. Hector Cameron, of Glasgow, was the first to perform this operation for fracture of the patella. He had himself previously operated on an old fracture of the olecranon; the joint was useless, owing to the great separation of the fragments; and the operation resulted in perfect cure of the joint. He strongly deprecated the adoption of this operation by any surgeon who did not thoroughly understand the antiseptic treatment. He did not agree with Mr. Smith and Mr. Bryant that the operation should not be done in all cases where the antiseptic treatment can be properly carried out. The risk a patient incurs in having his knee-joint opened antiseptically is not greater or so great as that attending the removal of an ordinary fatty tumour without antiseptic treatment. He believed, however, that in one case he had succeeded in getting osseous union in fractured patella by the treatment usually adopted. Still, if this operation gave the best results, it should be generally followed.—Mr. AMPHLETT said that the aim was to secure bony union and free movement of the joint. These two results are opposed to each other, so far as the treatment is concerned: for the first, perfect rest is required; and for the second, early movement. In old cases, where the limb is useless, he considered this operation perfectly justifiable; but not so as the primary measure in recent cases.—Mr. ROSE, in reply, stated that a case in which Malgaigne's hooks were used in King's College Hospital, some years ago, ended fatally from erysipelas. It is impossible to get the fragments together accurately, without tilting, by any extra-articular method, or by subcutaneous division of the rectus. Why not perform the operation in recent cases, rather than wait until the rectus has had time to become weaker and shorter, and the usefulness of the limb impaired? In the case of the female he had shown, the movement was not so good as it would have been had she permitted him to manipulate it freely. As, however, she had now consented to have it moved under chloroform, he hoped to be able to show the case to the Society on some future occasion.

The meeting then adjourned.

Reviews and Notices of Books.

Outlines of Medical Treatment. By SAMUEL FENWICK, M.D., Physician to, and late Lecturer on the Principles and Practice of Medicine at, the London Hospital. Churchill. 1879.—Dr. Fenwick's Guide to Medical Diagnosis is so deservedly popular, that a new work by him, intended also as an aid to students, is sure to attract much attention. We gather from the dedication of the book (which is appropriately made to Surgeon-Major Marston, M.D., the secretary to the Surgeon-General of India) that the chief object of the volume is to correct "the tendency to adopt physical diagnosis as the basis for treatment, to the disparagement of those indications furnished by symptoms, which are of so much importance in leading to a correct method of rational treatment." The relief of urgent symptoms is a duty impressed on every listener by every lecturer on medicine, and is the first thing that the practitioner aims at doing. We cannot, however, help feeling that before proceeding any further in the treatment of a case, the medical attendant should form in his own mind some opinion of the pathological changes to which the symptoms are due, and to do this in many cases physical diagnosis is the only sure means at his disposal. We must protest against mere symptomatic treatment being inculcated. The student must learn to investigate the past history, and to make a probable forecast of the future of the case, and his treatment must be based on these as well as on the present symptoms. We are quite aware that the facile production of polypharmic formulæ is an art that is almost lost among our present students, but we do not so greatly deplore it, for the proper treatment of a case is often best carried out by avoiding their use, and the art can be, and is, acquired by all of us readily enough. The great objection to elaborate indications for treatment, and numerous prescriptions to meet these, is that they nearly always make a routine prescriber rather than an intelligent physician. Practitioners who are ready to prescribe fifty combinations for vomiting, cough, or headache, rarely trouble themselves to diligently examine the patient, and ascertain the exact nature of the malady from which he is suffering. We feel bound to add that Dr. Fenwick's little volume is as well done as the subject will allow, and have no doubt that it will command a large sale.

St. Thomas's Hospital Reports. New series. Vol. IX. Edited by Dr. ROBERT CORY and Mr. FRANCIS MASON. London: J. and A. Churchill. 1879.—The present volume of Reports is considerably smaller than its immediate predecessors, and, we must add, less interesting. Excluding the special statistical reports, there are eighteen papers, and we cannot point to any one of them as evincing special merit, as containing much valuable information, or as materially aiding the progress of science. Messrs. Mason and MacCormac relate the histories of three interesting surgical cases, and Mr. Clutton makes some remarks on his cases of strangulated hernia and on Martin's rubber bandages. Dr. Bristowe contributes a short paper on chorea, Dr. Ord continues his analysis of cases of enteric fever, and there are other papers by various contributors; but we cannot regard the volume as quite worthy of the staff and school of a hospital like St. Thomas's—such a splendid field for study.

Remarks on the Routine Use of the Ophthalmoscope in Cerebral Disease. By J. HUGHLINGS JACKSON, M.D., F.R.S. London: J. & A. Churchill. 1879.—In this little tract Dr. Hughlings Jackson reinforces with added emphasis the precept he has so long urged—viz., the importance of ophthalmoscopic examination in suspected cerebral disease, notwithstanding the fact that vision may be perfectly unimpaired. He has shown abundantly that well-developed optic neuritis may exist without any disturbance of sight. Whilst fully admitting the value of ophthalmoscopy, it may be urged that cases do occasionally occur in which double optic neuritis, associated even with vomiting and headache, exists, and a grave prognosis has been made, only to be happily falsified by the issue of the case. Still it is well to be prepared, and, without depending too much upon any single indication, to look with gravity upon the concurrence of this significant triad of symptoms. Dr. Jackson's *brochure* should be read by all practitioners, and its lessons taken to heart.

Revue Mensuelle de Médecine et de Chirurgie, Oct. 10th, 1879. Paris: Germer Baillière et Cie.—The contents of the October number of this journal are as follows:—J. Parrot, Spontaneous Cranial Perforations in Infants; Nicaise, Serous Osteo-Periostitis and Serous Abscesses—a continuation of a recent article entitled Serous Inflammatory Effusions in Cellular Tissues. Dr. R. Moutard-Martin contributes a clinical and experimental study on the Lateral Movements of the Knee-joint, especially with reference to the causes and value of this sign in the case of white-swelling. His conclusions are—1, lateral mobility points to ligamentous or cartilaginous lesions; 2, when the lesion is ligamentous there is at least destruction of the crucial ligaments and of one lateral ligament; 3, when the lesion is cartilaginous there is at least diminution in thickness of the encrusting

cartilages (which may proceed to their disappearance); 4, mostly both kinds of lesion coexist in cases of white-swelling; 5, hence the prognosis is always grave; 6, treatment, in the case of white-swelling, should consist in seeking for anchylosis by all possible means before having recourse to amputation. M. Alix Joffroy contributes a paper upon Bromide of Potassium in Spasm of the Glottis in tracheotomised subjects; a complication delaying the removal of the tube. E. Brissaud and A. Josias describe fully what they term Scrofulous Gummata and their tuberculous nature. In the section devoted to the "General Review," M. Ch. Talamon concludes a series of papers on Lesions of the Central Nervous System of Peripheral Origin. Then follows the usual bibliography, and a brief memoir of Chaissagnac.

Thoughts on Education, General and Medical. Being the Introductory Address delivered at the opening of the session 1879-80 at the Westminster Hospital. By AUGUST DUPRÉ, F.R.S. Lecturer on Chemistry and Toxicology at the Hospital. London: Pardon and Sons.—Dr. Dupré has done well to publish in pamphlet form his thoughtful address. His defence of a classical education, as the best adapted to educate the mind, coming as it does from one engaged in the pursuit of science, should have weight with those who believe that a technical education is the best training for all, and especially for those intending to practise medicine. The subject is very important, and we are pleased to find among the introductory addresses one which deals with it so fearlessly and well.

A COUNTY COURT JUDGE ON DOCTORS' BILLS.

AT the Chelmsford Court on Tuesday last, the 18th inst., the case of Hodson *v.* Stewart came before Mr. J. T. Abdy, D.C.L., Judge. The plaintiff, Mr. Thomas Hodson, surgeon, of Ingatestone, sought to recover from the defendant, an innkeeper of Fryerning, the sum of £5 3*s.* for medicine and medical attendance. On the part of the defendant it was alleged that Mr. Hodson had charged for certain visits which had never been made, and it was denied that he had ever attended the defendant personally, whereas he swore that he had treated him for sleeplessness. On perceiving that Mr. Hodson's Bill began so far back as 1873, that it was sent in in 1878, and that it is in the usual form of a doctor's bill, his Honour said he thought Mr. Hodson was somewhat to blame in the matter. He did not send in his bill till after the lapse of a long period, then he sent it in without any details or particulars, and there was a dispute. Upon the practice of doctors sending in their accounts without particulars he had remarked before, and a leading medical journal—THE LANCET he believed it was—on that occasion published an article in which it seemed to be thought that he was rather stepping out of his position in making a suggestion upon the subject. He did not think, however, that he was, and he should be glad to see the medical profession changing their custom in the matter. Members of other professions and tradesmen were all expected to give particulars in their bills. A solicitor, for instance, gave a whole history of the matter to which his charges related. He was sorry to appear to find fault in any way with the medical profession even on a question of this kind; their services were most invaluable. When ill we are ready to bow down our knees almost to get their help, and he (the judge) had nothing but admiration for the self-sacrificing life they led, and for the way in which they worked. He thought, however, that many a dispute would be avoided if they would give items in their bills.—Mr. Hodson: My patients are always perfectly welcome to see my books if they wish to do so.—His Honour: But that is not enough; the details should be given in the bills, otherwise they cause these disputes, and the Court has to go through every item. I should certainly recommend you to follow the method which is adopted in every other profession, and in every trade.—The evidence in the case was then taken. Mr. Hodson's explanation of sending the bill late was that he kept his own books, made out his bills, and had everything to do himself.—His Honour: I hardly see how a business is to be carried on in this way. I should think you could get someone to help you for an hour occasionally.—Mr. Hodson produced his ledger, and said it was a true copy of his day-book. He would swear that he had made every visit for which he had charged. His Honour said he was satisfied with Mr. Hodson's statement. He saw also that the charges were small. He therefore gave judgment for Mr. Hodson, and allowed his expenses; the debt to be paid by instalments of 5*s.* a week.

CONVICTION OF A SURGEON.

AT the Hammersmith Police-court, on Nov. 13th, Mr. David Johnson, a surgeon duly registered, residing at 10, Penywern-road, South Kensington, appeared to answer two summonses—one for making a false statement concerning the death of Margaret Philipina Howells, aged five years, the daughter of Letitia Howells, the wife of a tailor lately living in West Pembroke-place, with intent to have the same entered on the register of deaths; and the other for making a false certificate of the same.

Mr. Claydon appeared for the defendant, who pleaded "Not guilty."

Mr. Pridham, who supported the summons, said the proceedings were taken under the Births and Deaths Registration Act of 1874, and instituted by the Medical Defence Association, with the sanction and authority of the Registrar-General. The defendant was a registered medical practitioner residing in Penywern-road, but he had a brass-plate bearing the words "Dr. Johnson's Surgery," at 8, The Terrace, in High-street, Kensington, which house was occupied by Mr. Carnley Smith, who had been fined £10 at that court for falsely pretending to be a qualified practitioner in a certificate of vaccination. He (Mr. Pridham) would be able to show that Mr. Smith attended the child, well knowing his position, and that the defendant did not see her until after death, though he signed a certificate stating that he had attended her. The Association were not actuated by any vindictive motive, but it was necessary to stop the practice, otherwise the Act would become a nullity.

The mother of the child was called, and said Mr. Smith had attended a person in the house and witness's family. She liked him, and sent for him when her child was attacked with fever in April last. He attended her until she died. The defendant saw her after death, and said if witness sent to the terrace he would give a certificate. In cross-examination the witness said she did not wish to prosecute. She was not aware of the prosecution until it was commenced.

Mr. Claydon, after the case was closed, said the Medical Association had acted rather precipitately in taking proceedings against the defendant, who was a highly respectable practitioner, and the last person to contravene an Act of Parliament. Mr. Smith, who was well known, received authority to sign the certificate of vaccination, but he had no right to do so. The defendant had known him for years. Mr. Smith had been his pupil and assistant, and proposed to go up in January for his diploma. It was the common practice for surgeons to employ unqualified practitioners to assist them in visiting and dispensing, and if the defendant had erred it was through ignorance of the law. He (Mr. Claydon) proposed to call Mr. Smith.

Mr. Sheil said the evidence of Mr. Smith would not alter the case. He was of opinion that there had been an infringement of the Act, and one which it was intended to prevent. As there had not been any previous complaint against the defendant he should not impose the full penalty. He fined him £5 with five guineas costs in the first case, and 1*s.* in the second.

The money was paid.

THE Wolverhampton Guardians have increased the salary of Mr. Francis J. Griffiths, medical officer for the No. 4 or Bilston district, from £77 4*s.* to £100 per annum.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 22, 1879.

THERE is no ground for questioning the justice of the decision arrived at in the recent lunacy cause, NOWELL *v.* WILLIAMS; and nothing would be gained by reviewing the evidence, the speeches of counsel, and the summing-up of the judge, so far as the personal issues raised and adjusted are concerned. At the same time, there are certain lessons to be learned from the proceedings in their several stages, and these should by no means be overlooked. For example, it will be important for medical men, examining patients with a view to ascertain the existence of, and certify, insanity, to understand that each examiner must act independently, and that, not only in form, but in fact, consultation is prohibited by the law. The aim of the Legislature has been to secure for every subject of the State who is alleged to be a lunatic the safeguard of two separate trials by persons assumed to be competent to form a sound judgment, and acting without any concert or communication. Some months ago, when discussing the practical working of the law, we pointed out this evident purpose in the Act, and contended that consultation between the certifying practitioners in a case of supposed lunacy was disallowed by the law. The immediate consequence of that assertion was to draw down upon us an avalanche of censure and correction from members of the profession, who ought to have been better acquainted with the legal aspects of lunacy practice than their communications showed them to be. We maintained the opinions expressed, and, by this remarkable case, the accuracy of our reading of the law has been amply vindicated.

It is as true to-day as it was when first contended, more than twenty years ago, that any person may be deprived of his or her liberty, and branded with the life-long stigma of insanity, on no better grounds than the opinions of two medical men, who, for aught the law or the profession has to say on the subject, may never have seen a case of lunacy, heard a lecture, or read a single page in any work on the subject, or been asked a question at any examination; and although no prudent man would risk his reputation by giving a final judgment on a case of disease so simple as one of measles or scarlet fever, unless the symptoms were exceptionally well marked, without taking time to consider, the practitioner called in to pronounce a quasi-legal judgment on the basis of a medical diagnosis in a case of supposed insanity, is expected and required to arrive at a conclusion, and virtually to sign an instrument scarcely less terrible than a death-warrant—not a whit less terrible to many persons—at a single visit to his patient, and without the power of calling in any professional assistance, or consulting with the practitioner who undertakes a like responsibility. This is a calm statement of the facts, and they have stood thus ever since it was made, although the bitter feeling elicited in some quarters by the truth has increased rather than diminished since the facts were first publicly avowed, and the existence of a grave social peril exposed and reprobated. It will be well if a matter of such moment as this at length forces itself upon the unwilling or strangely stolid consciousness of the Government and the Legislature. There has not yet been a full and fair inquiry into the working of the lunacy laws conducted on common-sense principles, and until such an inquiry is instituted, without any wish either to condemn or support the existing system—in short until the *personal* element has been wholly eliminated from the controversy—the facts will never be known, the question of expediency never practically reached.

Once in an asylum, alleged lunatics are humanely treated. There is no longer any cause for anxiety on this score. The probability that an error made in certifying will be detected is, however, exceedingly small. The medical authorities of an asylum, whether public or private, are not likely to incur the grave risk of discharging a patient who has been placed in their care under certificates properly filled up and duly signed. It would be unreasonable to expect them to do so. If a new arrival is quiet, and does not present any evidence of insanity, it is always possible—indeed it is probable—that he is a lunatic of the cunning sort, and therefore most dangerous. If he shows great excitement, and protests passionately that he has been unfairly kidnapped, this may be generally set down to his disease. He *must* therefore be detained, even by the most kind-hearted and experienced of physicians, until more is known of his case. And here comes the lamentable and disquieting reflection, that a few hours' residence in an asylum, amongst madmen, and under the crushing sense of being *certified a lunatic*, and torn from home and family to be incarcerated as insane, is enough—more than enough—to overbalance any peculiarly sensitive or weak mind. It does not greatly add to the horrors of the legal situation to know that the Commissioners in Lunacy do not specially interfere in the cases of patients sent into an asylum unless there is something technically wrong in the certificates forwarded to Whitehall, and that of this there has only been one instance in some ten years. It seemed to give many anxious minds great comfort to be told, by one of the most distinguished witnesses examined before the Select Committee of 1877-78, that the number of irregular certificates was proportionally very small. Those who know anything of the matter practically do not need to be told that such irregularities as would attract the notice of the Commissioners are exceedingly unlikely to occur—indeed, cannot occur under ordinary circumstances. The peril in regard to which we have repeatedly warned the profession and the public is not one which the Commissioners can remove. A month or six weeks after a sane but weak man or woman has been mentally branded as a lunatic and locked up in a madhouse, is generally too late for the Lord Chancellor himself to interfere. The most experienced and humane of physicians who may be sent to examine a person so situated can scarcely fail to find tokens of "mental unsoundness." We would almost go the length of saying that, under circumstances so irritating as those described, the most thoroughly sane are likely to appear the most disturbed; and with all proper respect for the skill of physicians who jump to conclusions as to the existence of mental disease, we venture to assert that mistakes may occur, and the safeguards which the law provides against the social and personal consequences of

an erroneous opinion are not sufficient to satisfy the requirements of public security or to allay the misgivings of those who know how these provisions work. All this, and more, was stated before the select Committee of 1877-78, but without avail.

It is not to the bugbear of ill-treatment in asylums public attention needs to be directed. The reforms progressively effected by Lord SHAFTESBURY'S permanent Commission have redressed the grievances of thirty years ago, but the perils attending the induction of patients to the class "lunatics," and the difficulties encountered and the mental risks incurred by any sane but weak-minded person who may have been improperly confined and strives or longs to escape, remain as great and grievous as they ever were. Public anxiety on this point has been to some extent allayed by the assurance of many witnesses and the report of a Committee of the House of Commons, that all the alleged charges of improper confinement have broken down utterly, and that instances of this misadventure cannot be shown to have occurred. Our reply to this statement is that the truth cannot possibly be ascertained, because a very brief period of life in an asylum is sufficient to render any susceptible person insane. What would be thought of the argument that patients are never sent to a fever hospital without having fever, because careful examination showed that every one of the inmates who had resided in the institution some two or three weeks were affected with the disease! This is what the vindication of asylums by the Committee of 1877–78 amounts to, neither more nor less. We have repeatedly and warmly contended that private asylums, on the footing upon which they now stand, do not admit of defence. It is a serious fault that the interest of the proprietor lies on the side of detaining a patient, and we cannot but think it is in a high sense creditable to the integrity and independence of the keepers of licensed houses that the implicit trust reposed in their humanity is not abused. We go further, and protest that it is not politic or statesmanlike to entrust the power of imprisonment to private, and legally irresponsible, hands. The Solicitor-General plied this argument forcibly in the cause which has just been concluded. We have urged it repeatedly during the last few years. It is difficult to understand how so grave a defect of the law as that to which attention has repeatedly been directed remains without remedy. Meanwhile the perils attending the process of certifying as the statute provides will not be affected by any change of the law relating to private asylums. It might be easier to get out of a public asylum than one conducted for private gain, but the danger of being wrongly confined is almost, if not quite, as great in the one case as in the other—and, let the apologists of the *status quo* say what they will, it is great indeed. We are not disposed to echo the complaint urged by a lay contemporary, to the effect that the medical man specially interested in lunacy cases seeks to "establish a reputation for a particularly keen insight into obscure mental disease, and a sensibility to minute symptoms which escape the less penetrating glance of his professional fellows," by making "sane men to be mad"; but it must be plain to everybody—medical practitioners and laymen alike—that the tendency of recent "progress" in mental science has been to enlarge the definition of insanity. This is, beyond question, *one* of the causes of the alleged increase of insanity, as to which statistical inference from loose figures we have ventured to express a doubt. However this may be, it is obvious that effective protection for the sane, but weak, is increasingly necessary. As the reach of the grasping hand that strives to gather them within the pale of lunacy is lengthened, as the supposed *evidences* of insanity are multiplied, the bulwarks of personal liberty require to be strengthened. It needs no argument to make this plain. In the face of this fact nothing is done.

Good will come out of evil if the cause "NOWELL *v.* WILLIAMS," should prove the means of pressing the truth home on the Government. Nothing will or can be done while the Lord Chancellor trusts implicitly to official advisers as to the measure and nature of the amendment the law requires. No mere tinkering of the existing provisions will suffice. A sweeping reform is requisite, not on account of anything which has occurred, but to put an end to a peril which perpetually exists, and which, when it makes a victim, must needs so bury the mistake that it is not likely to be detected by the most vigilant of inspectors. We have in former articles pointed out what we believe the remedy for the fault in the law as to certifying should be, and the suggestion was laid before the Select Committee of 1877–78. It would not cost an extra shilling to carry out the plan submitted. We trust the time is not far distant when the proposal may be considered by the Legislature itself, and, with or without the consent of the Government and the department, be incorporated in the law. There is much waiting to be done in the matter of lunacy law reform, but it is upon the subject of "certifying" the recent case throws light, and to this special phase of a great public, social, and personal question, we confine our present remarks.

THE general practitioner must be a very much more ungrateful person than we take him to be if he is not thankful for the amount of discussion which the subject of his education excites. It is not only that the General Medical Council has been sitting upon that subject for twenty years. The education of the general practitioner is also the main matter to which the attention of the Select Committee on Medical Bills has been directed. And, as if all this were insufficient, we have now to consider a report presented to the Metropolitan Counties Branch of the British Medical Association by the committee appointed to consider the subject of the education of the general practitioner of medicine. It is no slight reflection on the General Medical Council that the Metropolitan Counties Branch of the British Medical Association should feel it necessary to deal with this subject, and that some of the recommendations arrived at by its committee, particularly one of great importance, was made to the General Medical Council ten years ago by the Medical Teachers' Association, and rejected. It has since been made by the Council itself; but it is not yet embodied in any curriculum or examinational requirements, unless it be in those of the Scotch Universities. The Committee of the Metropolitan Branch give as the chief basis of the interest in the subject of the general practitioner's education the fact that, of all students who enter at our medical schools, 24 per cent.

fail to qualify so as to enter the ranks of the profession. And, as showing that matters are getting worse rather than better, the Committee quote a recent statement in our columns, "that in one of our largest medical schools only 43 per cent. of the students ever obtain their diploma to practise, and that during the past year 43 per cent. of the students failed to pass their primary examination," and this in spite of the "test" examination of students by the schools. We really rejoice that this subject has been investigated by a committee composed not only of teachers but of general practitioners, with the assistance and occasional presence of Professor HUXLEY. The nature of the investigation and the results of it will be gathered from the following recommendations arrived at by a majority of the Committee:—

1. Intending medical students should pass an examination in the elements of botany, physics, biology, and inorganic chemistry, prior to admission to the regular medical curriculum; and these subjects should form part of their Preliminary general education and examination.

2. Every student of medicine, before going up for his final examination, should produce a certificate of having studied for a period of not less than six months with a general practitioner who dispenses his own medicines.

3. The age of twenty-two years should be attained before a student is permitted to receive a licence to practise medicine and surgery.

4. An examination in elementary anatomy and physiology, at which every student must appear, should be instituted at the end of the *first* year of medical studies.

5. After passing the primary professional examination, every student should be compelled to devote at least two full years to the study of clinical medicine, surgery, and obstetrics, at a general hospital, prior to being allowed to present himself for his final or qualifying examination.

6. Teachers of medicine, surgery, and obstetrics should keep an accurate record of the visits of students to the wards and the out-patient department during the time that clinical instruction is being given. A summary of these records should be sent with the candidate when going up for his final examination.

We have not space to discuss these recommendations in so much detail as we could wish, and as they deserve. We entirely approve the fourth recommendation, which we referred to above as rejected ten years ago by the Council, but now adopted, only with no force of law on the individual bodies. Forty-two per cent. of the medical teachers are opposed to it. Our belief is that more than anything else it would give earnestness to study *ab initio*, and give animation to the first year of medical study, when a youth seems to be so seriously left to himself, and to have no sense of near responsibility for the use he makes of his time.

A very important recommendation is the first of the above in favour of an extension of the preliminary examination, so as to include ("besides the subjects detailed in the existing *Orders* [by the way, there is no such thing] of the General Medical Council") elementary botany, physics, biology, and inorganic chemistry. Ninety-six per cent. of general practitioners and 90 per cent. of teachers are in favour of this addition to the preliminary examination, which is pronounced to be practicable by Professor HUXLEY, who says that 75 per cent. of the pupils of the Science and Art Department pass examinations in these subjects during the seventeenth year of their age. This is not a proof that such tests could be applied generally at that age. But the demand might create the supply, and if there is no risk of seriously diminishing the number of entrants of the profession, the experiment should be carefully made. It is evident that youths with the beginnings of knowledge of such subjects would commence the study of anatomy and physiology at a much greater advantage than now.

As regards Recommendation 2, it seems to us very inadequate. Pupilage with a medical practitioner is supposed to advance a student's knowledge of two things—dispensing, and the medical duties of practice. Clearly these two things are widely different. They are to be attended to at different times, and may be learned in different ways. Dispensing may be learned at almost any time or anywhere, in a dispensary or under the care of a good chemist. The thousand-and-one arts of practice are a much later study, and can only be well taught to an advanced student. The distinction we should draw is like that which has already been drawn between the teaching of mere pharmacy and of therapeutics. Undoubtedly it is a great defect in existing curricula to provide no means of teaching every-day duties in every-day cases.

We can now only find further space to say that while the report is a very good one, it is characterised by one great omission. It shirks all allusion to modes of teaching, to faults and defects in medical schools and in medical teachers. It assumes that all the failure is due to defects in the student and in the curricula. This is a very pleasant assumption, and perhaps a natural one in medical teachers, but it is one that distinctly diminishes the value of this otherwise excellent report.

AMONG the economies about to be effected by the Indian Government, in order to eke out the diminished resources at their disposal, it is, we believe, intended, from the 1st of January next, to reduce the administrative staff of the British Medical Service by two deputy surgeons-general and three superintending surgeons-major. A similar reduction is likely also to be effected in the administrative *personnel* of the Indian Medical Service. A redistribution involving an increase of the area and a decrease in the number of the circles of medical administration in the three presidencies is also contemplated, with the further intention of having the medical superintendence of both British and native troops performed by the same medical officer in each circle. The dual system of medical administration is no doubt cumbersome, and involves a variety of correspondence, periodical returns, and other subsidiary details, the abolition of which would be a consummation devoutly to be wished. At first, probably, the transference to officers of the Indian Medical Service of the duties connected with the superintendence of the numerous details inseparable from the medical administration of British troops would be attended with many and considerable difficulties. Similar but less serious difficulties would beset the officers of the British Medical Service on taking over the administration of native troops. Such difficulties, however, are merely temporary, and would soon disappear before the zealous and well-directed efforts of intelligent and capable men. It cannot be disputed that the medical as well as the military super-

intendence of all troops in India, both British and native, ought to be under one administrative head. The amalgamation of the British and Indian Medical Services has frequently been discussed in these columns from every point of view, and probably the changes about to be effected by the Indian Government will form merely the initiative to the introduction of a comprehensive reorganisation. As usual, that bugbear of reformers, "vested interests," will stand in the way of all change. A broad and statesmanlike view of the matter would, however, soon overcome such obstacles by the only method which experience has shown to be available—namely, a judiciously liberal expenditure. Amalgamation would not necessarily involve the extinction of the Indian Medical Service. It would merely place that service among the branches of the general civil administration of the country. The extensive fields of observation and of lucrative practice in the large civil stations and Presidency towns, and the opportunities of obtaining professorships in the various medical colleges now so largely established throughout India, and still increasing in number, would continue open to the Indian Civil Medical Service, and would be sufficiently attractive to induce, not only many members of the present Indian Medical Department to elect for the new service, but many of the best men from the schools to compete or apply for appointments. Those members of the present Indian Medical Service who would elect for the military branch would—the claims of such "vested interests" as may be concerned being duly considered—pass directly and for ever to the ranks of the Army Medical Department, in a manner analogous to that (*mutatis mutandis*) in which the officers of the late Indian Engineers and Artillery, and the local regiments of Cavalry and Infantry, were transferred to the Royal Army. The officers of the Army Medical Department serving in India would, by a combination of individual choice and administrative selection, be assigned to do duty with either British or native troops, executive service with each for a certain fixed period being an essential qualification for promotion to the administrative branch. In due course of time the transfer from the Indian Medical Service would be absorbed either *ad majores* or into the retired list, and all military medical duties would be carried on, as in other parts of the world, by officers of the Army Medical Department.

Another item in the reduction of expenditure contemplated by the Indian Government is the disestablishment of the appointments of the Statistical Officer to the Surgeon-General of the British Forces in India, and of the Secretaries to the Surgeons-General in Madras and Bombay. The expediency of these reductions in the face of the difficulties which will have to be overcome in the preparation, correction, and compilation of the multitudinous returns which will be required from both native and British troops under the new circumstances of an amalgamated medical administration appears to us very questionable. It is, we believe, expected that the administrative medical officers of circles shall be responsible for the accuracy of all returns from their respective circles. This system, however, has been already tried and found wanting. It is well known that after the Indian Mutiny it was found that such a mass of medical returns had, owing to the many demands upon the time of the medical officers in consequence of the exigencies of service, fallen into arrears, that many years of steady and hard work in the "Arrears Branch of the Inspector-General's Office," specially established for the purpose, were required before the returns could be brought up to date, and the current work carried on. What has happened once will be likely to happen again. The medical work is liable to be very unequally distributed among the various circles of superintendence. Putting aside the requirements of actual military service, which are on the whole infrequent, cholera epidemics, camps of exercise, a viceregal progress, a reception of native princes, any or each of these events will very much increase the merely clerical work of administrative medical officers, and delay of the current work, if not accumulation of arrears, will be inevitable. Under the present system of all returns being inspected, corrected, and compiled in a central office under the immediate superintendence of the Surgeon-General, such delays are not likely to occur. We believe that just now, notwithstanding the increased demands on the office establishment attendant upon the two Afghan campaigns and a most destructive and very general outbreak of cholera, all the ordinary routine returns, as well as the special returns rendered necessary by the present circumstances, have been regularly furnished up to the latest available dates. This is highly creditable to the Surgeon-General and to his statistical officer, and we think that the Indian Government would do well in reconsidering their intention of disestablishing the statistical branch of the office of the Surgeon-General of British Forces in India.

Annotations.

"Ne quid nimis."

NON-COMBATANTS?

WHEN the Victoria Cross was conferred on Majors Chard and Bromhead, for their gallant defence of Rorke's Drift, we deemed it our duty to comment upon Lord Chelmsford's conduct in recommending for this distinction the two regimental officers only and omitting all reference to the equally gallant conduct of the departmental officers engaged. We rejoice to find that Lord Chelmsford has recognised the mistake he then committed, and, at the dinner given him by the Grocers' Company, has taken advantage of the first opportunity of speaking in public since his return from Africa to bear testimony to the efficient services performed by the departmental officers generally, and the valuable aid rendered by them in bringing the campaign to a successful termination. We are especially gratified to find him entering a protest against "the designation by which it is usual to stigmatise (for I can call it by no other name) those who belong to the several Army Departments—viz., non-combatant." We have long and often urged the necessity for abolishing this unjust distinction in the case of the medical officers. We trust the forthcoming Warrant will give effect to the opinion of Lord Cranbrook's committee, who reported that "the medical officers show good cause why, in the matter of honours, they should be associated with the combatant rather than the administrative services." Lord Chelmsford said, "It seems to me most unfair, because, as a general rule, on active service duty does not call to the immediate front those who belong to those departments, that a name should be given to them which seems to imply an inferiority of position to the other branches of the service." But if this be true as regards the Commissariat

and Pay departments, how much more applicable to the Medical, a certain proportion of the officers of which must, in the discharge of their duty, be well to the front, and who are called upon frequently to perform operations and render other professional assistance under fire and at the risk of their lives. Such services have always been willingly rendered, although but too often grudgingly acknowledged or altogether ignored. Let us hope that the military authorities, acting on the opinion so strongly expressed by one of their own number, may remove this invidious distinction, and show themselves willing to recognise and to reward meritorious service whenever and by whomsoever it may be achieved.

DR. ANDREW DUNCAN.

AFTER a considerable interval of anxious suspense, details as to the nature of the injuries received by this distinguished young surgeon in the action before Cabul, Oct. 6th, have arrived. It appears that he was struck over the region of the liver by a spent Enfield bullet, which gave rise for the time to serious symptoms. Two days after the injury, Field-Surgeon Fawcett reports, the extent of the injury was not known, but no dangerous symptoms appear to have supervened. A telegram, dated a few days later, states that Dr. Duncan was progressing favourably. By that time the shock from the immediate injury would have passed off, and an opinion could be formed as to the nature and extent of the mischief to the liver. The fact that no bad symptoms had manifested themselves within four days after the receipt of the injury leads to the conclusion that no rupture of the viscus had been occasioned by the contusion. We, therefore, hope the next mail will inform us of the satisfactory progress towards recovery of this gallant and distinguished member of our profession. Dr. Duncan when he received his wound was by the side of General Baker at the time the heights were carried.

FLEUSS'S SYSTEM OF DIVING AT THE ROYAL POLYTECHNIC.

THE note by Mr. Howell, the secretary to the Royal Polytechnic Institution, on the new system of diving introduced by Mr. Fleuss, has led the writer of this annotation to make a second series of observations on the process, and we are much indebted to the directors of the institution, as well as to Mr. Fleuss himself, for the facilities they have afforded us. At our request Mr. Fleuss on Saturday last remained under the water precisely one hour, and would have remained longer on his own account but that the extreme cold of the water rendered his hands, which were not covered, incapable of ready movement. He had been a few minutes in his apparatus, and shut off from the outer air, before he made his descent. We took his pulse before he entered the water, at 6.40 P.M., found it steady and good, at 68 per minute, and his temperature natural. He descended to the bottom of the twelve-foot tank, and remained there until 7.40 P.M., when he signalled by the cord that he was about to ascend. During the time he was immersed he moved about as he liked, picked up coins, and we could see that occasionally he was sitting or partially recumbent. After he came out of the water five minutes elapsed before the helmet and ori-nasal tube could be removed, so that he was actually shut off from the external air one hour and ten minutes at least. Immediately on coming out of the water his pulse was beating at 120 per minute, but this he himself attributed, and we have no doubt correctly, to the fact that he was laden with a weight of 116 pounds (twenty in the boots and ninety-six on the shoulders) in order to keep down under the water, and that it is no easy task to carry that weight up the ladder from the tank. So soon as the helmet and dress were removed we took the pulse again, and found it beating at 90 per minute, the temperature in the mouth being down to 94° Fahr. The breathing was easy, and the face only a little pale. He said he was perfectly comfortable, but felt cold. At the end of 27 minutes after Mr. Fleuss had been out of the water his pulse was at 80 per minute, and his mouth temperature at 96° Fahr. Twenty minutes later still the pulse had come down to 68, and the temperature of the mouth had risen to 97° F. The temperature of the water in the tank was 49° at the surface, and of the surrounding air 51° F. Mr. Fleuss is an Englishman, short, slight, but well built, and full of courage and enthusiasm. He has been an officer in the Peninsular and Oriental Company's service, and has been one year making preparations for this remarkable experiment. His apparatus, which is of rough construction, was made with his own hands, and though for the present he is silent as to its mode of action, he says that nothing about it is more curious than its simplicity. It is quite certain that he has contrived to carry down with him in his diver's dress a sufficient supply of air-food for perfect breathing during very long periods of time, and it is equally clear that he has some means of retaining the expired air, for during the whole time he was in the water not a bubble of air escaped from him that we could detect. Not to be too curious, the experiment promises to be in all points of view, physiological as well as practical, of great and lasting value.

DEATH FROM STARVATION, "ACCELERATED" BY PAROCHIAL NEGLECT.

A CASE of destitution and starvation which recently occurred in the metropolis and led to severe comments on the part of the press upon certain public institutions which were censured by the coroner's jury, deserves earnest attention. The facts of the case are these. John Dudley Chapman, aged fifty-six, a man who had been reduced to poverty from comparative ease, and who had in his time been possessed of considerable intellectual powers, was taken ill while staying at a lodging-house in Queen-street, Westminster. He was utterly destitute, and the money-taker at the lodging-house, after two ineffectual attempts to procure medical assistance from the parish authorities at the Strand Union, took him into the street with the view of finding a policeman to convey him to the workhouse. Becoming exhausted, he sank down on the pavement, and the police put him into a cab and took him to the Sick Asylum in Cleveland-street. Here he was refused admission by the night-porter, on the ground that he had brought no order from the parish officials. Then he was taken to the Middlesex Hospital, hard by, where he was seen by the resident medical officer (Mr. Fardon), who found him much exhausted, very emaciated, and with cold extremities. In answer to questions, he said that all the food he had taken that day was a pennyworth of milk. He was ordered a pint of warm beef-tea and a little bread, of which he took about one half. He expressed himself as better; his pulse improved, and he became warmer. Mr. Fardon then advised the policeman to take the man to the nearest parish infirmary, five minutes' drive from the hospital, and gave a certificate recommending his immediate admission. He was accordingly taken to the Poland-street Infirmary, and, notwithstanding every attention, he died in about eighteen hours after his admission.

Such we learn are the real facts of a case of which several incorrect versions have been given, by which the public mind has been greatly stirred. The coroner's jury returned a verdict that "deceased died from starvation, accelerated by the neglect of the authorities at the Strand Union, and the mismanagement of the Cleveland-street Infirmary," and we have no desire to exonerate these bodies.

Clearly it was a dereliction of duty on the part of the Strand Union authorities to have paid no attention to the case. As to the Cleveland-street Sick Asylum, Dr. Lediard's evidence plainly showed that there was a special bye-law permitting the admission of urgent cases at the discretion of the medical officer, without waiting for the formality of an order; and it is much to be regretted that the porter did not understand his instructions sufficiently to summon Dr. Lediard to see the case. It is obvious that with regard to the Middlesex Hospital the case stands on a different footing. It would be impossible, and indeed undesirable, for general hospitals to open their wards to all the cases of destitution coming to them. If this were done it would necessarily exclude many suffering from disease or accident, who, not being paupers, cannot be taken into the parish infirmaries. This distinction was pointed out by the coroner, but did not appear in the reports of the case, some of which, indeed, represented that the man had received harsh treatment at the hospital. In our opinion the resident medical officer could not well have shown more discretion than he did in dealing with the case. He restored the man by food and warmth, and directed him to be carefully conveyed to the nearest infirmary, giving him a certificate to procure his instant admission.

The case shows the necessity there is for some regulation by which the police should be able to demand the admission into the parish infirmaries of those whom they find destitute, helpless, and ill in the streets. At present cases are refused admission unless they have with them either a medical certificate or a relieving officer's order, and to obtain the former the police follow the instructions given them, which are to convey every apparently sick person to the "nearest hospital." In this way much valuable time is lost, especially at night, and since the infirmaries are provided at public cost for the reception of these cases, it is not a little curious that admission to them should be so difficult a matter. It must be remembered also that hospitals have to contribute out of their own funds to the maintenance of the parish institutions.

THE LIMITATION OF INFECTIOUS DISEASES IN EDINBURGH.

THE Edinburgh Municipal and Police Act, 1879, which came into operation on the 7th inst., contains a clause (208) relating to infectious diseases to the following effect:—In order to secure more prompt action in dealing with infectious diseases, it is provided that every medical practitioner practising within the burgh shall, within twenty-four hours of the same coming to his knowledge, report to the medical officer of health every case of cholera, typhus fever, typhoid fever, diphtheria, small-pox, scarlet fever, and measles occurring in his practice, and state the house or place where the patient is being treated, under a penalty not exceeding forty shillings; and if it be found on inquiry by the medical officer of health that the diagnosis of such practitioner was correct, such practitioner shall be paid the sum of two shillings and sixpence for each case reported and verified; and in order to facilitate the making of such report, every such practitioner shall, from time to time, be furnished, on application to the medical officer of health, with printed forms, stamped for postal transmission.

Dr. Littlejohn, the medical officer of health, has issued a circular to the medical practitioners of Edinburgh, calling attention to this provision of the law, and stating the arrangements made by the municipality to give it effect. With the circular a book of forms and a packet of stamped envelopes are sent to facilitate compliance with the Act. The form (with counterfoil attached) runs in the simplest fashion: "There is a case of —— at ——," with date and place for signature, and the added sentence, "No immediate attention required." The circular instructs the medical practitioner to strike out the "No" in the sentence in the event of his deeming a case suitable for removal to a public hospital, or the surroundings of the patient or any circumstance connected with him to require the notice of the authorities, and the case will then receive immediate attention from them. An inspector, indeed, will be directed to call at the patient's address, and to carry out such precautions as the medical officer of health may deem fitting. In the event of the "No" not being erased the authorities will not interfere, but in a fortnight after the receipt of the certificate a notice will be sent to the medical practitioner in attendance reminding him of his intimation, and proffering the aid of the medical officer of health's staff for purposes of fumigation and disinfection if desired. A record of reported cases of illness, arranged according to various streets, &c., will be kept at the medical officer of health's office, and will be open to the inspection of medical practitioners only, and any information desired from that office by medical practitioners, by letter, will at once receive attention. Accounts will be sent out half-yearly to each practitioner whose name appears on the books as having intimated cases of infectious disease, and payment will be made at the City Chamberlain's Office of all sums due.

WHERE ARE THEY GOING OR GONE?

THE City of London Central National Schools, White-street, Moorfields, have, it is said, been disestablished, "in consequence of the changes occurring in the population, and the children drafted off into ward and other schools in the city." This is only one of the consequences ensuing from the sweeping away of old and insanitary neighbourhoods for the sake of the public health. That measure was urgently necessary, and the work is scarcely commenced; but care must be taken that the poor are not improved off the face of the earth. Where are the ejected classes going to live, or where are they gone? It is right to demolish the nests of disease, but a fitting provision must be made for those who are displaced by this movement. It is not enough to say they may go elsewhere, unless the new locality is convenient as a place of residence as well as healthy. We fear, from the reports which reach us as to the tenacity with which some of the humbler classes cling to their wretched homes, that the "improvements" effected by recent wholesale demolition may not be so great as would appear. If, as the poor are driven from one neighbourhood, they crowd into another, the net result of all this moving may not be commensurate with the expenditure of money and trouble it entails. The personal aspect of sanitary reforms is quite as important as that which relates to the manipulation of bricks and mortar. After all, populous districts exist for the population, not the people for the circumstances and the land.

THE CONSTRUCTION OF THEATRES.

IT is gratifying to learn that the attention of the Government has been directed to the growing practice of constructing places of amusement wholly or in part underground. The arrangement is obviously inconsistent with the principles of safety and good ventilation. At the same time it is important that any measure of reform undertaken by a public authority should be effective, and it will therefore be necessary to take into consideration the whole question of construction for theatres above as well as below ground. It cannot be doubted that many, if not all, of the older places of amusement in the metropolis urgently need to be disestablished on the simple ground that they are unsafe as against fire and most pernicious as centres of infection and impure air. The condition of many of the London houses is simply astounding, and would be inexplicable but that a

risk systematically incurred ceases to impress the mind with misgiving. A stranger knowing what we *profess*, and seeing what we *practise*, in the matter of theatre-going, would be unable to understand how such things can be. There are at the present moment several houses where the ways of egress for an audience cross confusedly, but there are some where no less than five or six streams meet, and where nothing less than a hideous calamity must result from a rush. The supposition that any panic-stricken crowd could use an extra exit pursuant to "notice" is too ridiculous to be entertained. In any case, before such extra doors could be opened, the block and crushing must have occurred. Meanwhile, the atmosphere of the houses to which we are alluding is vile in the extreme. It will be well if the inquiry now promised turn out to be anything better than a revival of the old farce of investigation with nothing to follow in the way of effective reform.

THAMES FLOODS AND OVERFLOWS IN THEIR SANITARY RELATIONS.

THE recently published report on the sanitary condition of the Wandsworth district for 1878 contains some interesting particulars respecting the evils created by the overflowing of the Thames into the lower levels of the district in that year. The subdistrict of Battersea was chiefly affected by the overflow, and Messrs. Kempster and Pakman give a long list of houses which were flooded, either by the backed-up sewage or by the river water. They observe that the flooding of the houses in large areas of the parish with sewage water, which some few years ago occurred but once a year or thereabout, has latterly been so frequent, and attended by so much discomfort to the inhabitants, as well as so injurious to the general health of those residing in the localities in question, that the subject has become one of supreme importance from a sanitary standpoint. The depth of water in the flooded premises varied from a few inches to three and more feet in depth, and upon the subsidence of the water a layer of abominably stinking mud was deposited on the floor of the basements. Where the sewage matter did not rise above the floors of the basements, it often poured in beneath them, penetrating into the foundations, and saturating the soil beneath the joists. It is suggested that an increase of pumping power would diminish the liability of the sewers being gorged when the Thames is in flood, and so tend to diminish the evils described.

DISPUTED MEDICAL CHARGES.

MR. ROGER PROSSER, of Bromsgrove, lately sued Mr. Amos Roe, timber merchant, of Birmingham, for £26 14*s.*, for professional services, medicine, &c. The services consisted of twenty-three visits, and a consultation. For medicines 30*s.* were charged. The visits were charged at the rate of a guinea each, and the consultation a guinea. At the first visit there were two bad cases, one of croup, the other of scarlet fever, which Dr. Heslop says, who was consulted, was the worst case of scarlet fever he ever saw. The distance and the duties may best be judged by Mr. Prosser's description of his first visit. On the 9th of December, 1878, at 11 o'clock at night, he was called to attend defendant's children. The weather was most severe, and witness had to drive round by the Whetty as he could not pass over the Lickey, and thus made the distance nearly six miles. He found one child, a boy, had croup, and another, a girl, had scarlet fever of a very malignant nature; was there almost an hour, and got home at nearly two o'clock in the morning, the roads being so very bad. The next morning he went before breakfast, and so on, though after the severity of the cases was over he went at more regular times. He charged a guinea a visit. The defendant asked Mr. Prosser to go oftener than he did, and not think anything of expense. After the recovery of the children the defendant, in addressing the plaintiff in a letter, while objecting to the charges, bore handsome testimony to the plaintiff's care and skill, and attributed to them his daughter's recovery. On being summoned, he paid into court for these winter visits to life and death cases at a distance of miles at the rate of 5*s.* for day journeys, 10*s.* for one night journey, and a consultation fee of 10*s.*! It was not denied that he was able to pay the sums charged, which Mr. James Fitzjames West, Dr. Heslop, and Dr. Malins all thought reasonable. We also think them reasonable. The Judge compromised matters. He allowed two guineas for the night visit above described, which few lawyers would like to make for five. For a visit late in the afternoon another guinea was allowed. But as other visits were made in the daytime, and as part of a round, 10*s.* only was allowed. He saw nothing unreasonable in a guinea for consultation, though it was by letter. He gave judgment, therefore, for £16 4*s.*, and allowed costs for witnesses, called and not called, £10 17*s.* 6*d.* Mr. Roe may very reasonably have his misgivings as to whether he would not have done better cheerfully to have paid charges essentially moderate for the treatment of cases full of anxiety and danger, and, to the medical man, also of inconvenience.

THE ROYAL ALBERT ASYLUM, LANCASTER.

THE Medical Superintendent of the Royal Albert Asylum for Idiots and Imbeciles, Lancaster (Dr. Shuttleworth), reports for last year that during the fifty-three weeks included in his report 69 patients had been admitted, 23 discharged, and 13 had died—equivalent to a death-rate of 3·2 per cent. calculated on the average number resident, or 2·9 per cent. calculated on the aggregate number under training. The average number resident had been 390, and 441 the aggregate number under training. At the date of the Medical Superintendent's report, August 29th, there were 406 patients (269 boys and 137 girls) in the asylum. The average mental and physical condition of the patients admitted at the last two elections was superior to that of the patients received in the early days of the asylum; and the Committee has recently adopted the safeguard of a year's probation, which will have the effect of weeding out cases not likely to benefit by training. The general sanitary condition of the asylum is reported satisfactory; but a detached infirmary for infectious diseases is said to be needed. During the year there has been an extension of classification, the various grades being kept as separate as possible both for school instruction and industrial occupation. Evening classes are provided for patients who work all day. Out of 406 patients 225 are actively engaged in some form of industry, as fan work, gardening, tailoring, shoemaking, joinery, and assisting in household or laundry work.

DRAINAGE AT CAMBRIDGE.

THE Improvement Commission at Cambridge have written to the Local Government Board to say that they are not yet fully satisfied that Sir Joseph Bazalgette's scheme is the best for diverting the sewage of the town from the river Cam, and they also intimate that until a Valuation Bill is passed settling certain financial matters between university and town it will be impossible to undertake an expensive scheme of sewerage. Matters thus remain in the condition in which they stood in 1874, when the typhoid epidemic occurred, and in which Caius College suffered so severely, and when the Local Government Board sent an ultimatum that the scheme of drainage was to be carried into effect forthwith. It will be in the remembrance of our readers that the outbreak at Caius College was distinctly proved by Dr. Buchanan to have been caused by the fouling of the water-supply of the College by sewage sucked up into the cisterns from the town drains. These drains, it was

shown at that time, were in a most dangerous condition. Blocked with sewage, unventilated, with scarcely any fall to carry off their accumulated contents, they formed an "elongated cesspool," which permeated the principal streets in which the Colleges were built, and in which the bulk of the undergraduates lodged. That the ill-effects of this defective system of drainage are not more manifest is owing to the numerous open spaces in and around the town, which help to dilute the sewer gases and prevent their becoming unduly concentrated, and also to the excellent water-supply distributed in a constant service, which minimises the risk of its contamination with sewage matter. But these advantages would not avail the town should typhoid fever or cholera make its appearance, and the present defective state of the drainage would then make itself severely felt by affording an appropriate soil for the growth and diffusion of the specific poison of these diseases.

EDINBURGH UNIVERSITY CLUB.

THE quarterly meeting of this Club was held at St. James's Hall, Regent-street, on the 12th inst., when a numerous party assembled at dinner under the presidency of Dr. James Macaulay, the editor of the *Leisure Hour*. Amongst the guests were the Rev. Harry Jones; the Rev. Dr. Williams, of the North London Collegiate School; Dr. Edward Cowles, of Boston, U.S.A., &c. The chairman, in the course of a very entertaining and genial speech, referred to his university experiences of over forty years ago, and reviewed the progressive developments in each of the faculties. Dr. George Harley proposed the toast of "The Sister Universities," to which the Rev. Harry Jones responded on the part of Cambridge. Dr. Crichton Browne proposed "The Visitors," to which Dr. Cowles replied. At a late hour the partywas joined by Mr. Archibald Forbes, who, although a member of the Club, was not allowed to take his place without receiving a vociferous welcome on his return from Zululand. In a very short speech, Mr. Forbes remarked that it was ten years since he had dined with an Edinburgh University Club, but the only reason was that he had not been able to find one in Ashanti, Servia, Afghanistan, Burmah, or South Africa. Dr. Spencer Cobbold, and the Rev. Dr. Ross, of St. Philip's, Stepney, enlivened the meeting by several excellent songs.

THE DISSEMINATION OF INFECTION.

AT a recent meeting of the Chertsey Rural Sanitary Authority the medical officer of health, Dr. Jacob, reported the case of a maid-servant who had been sent to her home in the district while suffering from scarlet fever, the rash being fully out at the time. She would appear to have been, according to Dr. Jacob's statement, as reported in the *Surrey Advertiser*, in the service of a clergyman in Kent when she sickened, and had probably contracted the disease in his family, among whom the malady had been present. The girl, in proceeding homeward, had travelled both by rail and by cab. Dr. Jacob also reported another instance of a servant bringing scarlet fever into the district and into the midst of a family of five or six young children. In this case also the servant had been dismissed from her place and sent home immediately on sickening. The sanitary authority decided to make inquiry with respect to these cases, with a view of taking proceedings against the employers, under Section 126 of the Public Health Act, for exposing the sufferers in public places and conveyances, should the facts elicited justify this course.

It is lamentable to observe how imperfectly the responsibilities of employers in respect to infectious diseases among their servants are apprehended. We believe, however, that the sins of employers in this matter arise rather from ignorance than from wilfulness. It is for local sanitary authorities to make more fully known the responsibilities which attach to masters and mistresses in respect to the dissemination of infectious diseases under the Public Health Act, 1875. This will be most certainly and rapidly effected by the prosecution of persons who are guilty of breaches of the 126th section of that Act.

LIGHT-COLOURED CLOTHING FOR WINTER.

WE have more than once asked attention for the undoubted effect of colour on the radiating power of clothing. Remembering that the only source of animal heat—during the winter season especially—is located within the organism, and that the use of clothes is to conserve the caloric, it is important to take advantage of every circumstance which will help the result desired. Certainly light-coloured substances approaching to white do not part with their heat so readily as dark. The bear of the polar regions is for this reason provided with white fur, while his brother of warmer climates has a dark-coloured integument. It therefore seems desirable to prefer bright to sombre hues, and if this choice were made the result would be an air of additional cheerfulness in the public streets. Fashion is, of course, omnipotent and inexorable, but, if not too late, we should like to urge the consideration suggested by science and common-sense on those who have not yet laid in their store of winter clothing. The matter may seem of small moment, but the life we live is made up of small considerations and little affairs.

WORKHOUSE INFIRMARIES.

IN an interesting and well-informed article on Workhouse Visiting and Workhouse Management, contained in the October issue of the *New Quarterly Magazine*, the suggestion is reviewed of making an alteration in the Act of Parliament whereby the workhouses, asylums, and infirmaries may be thrown open to medical students for the clinical study of disease. It is proposed that students of third and fourth years should be admitted to observe the large number of instructive cases which these institutions contain; and it is further urged that these students would be able to give valuable assistance to the medical officers, two of whom, it is stated, may have no less than 500 persons under their charge. The suggestion is a plausible one, and, with some limitations, a practicable one. It is at least worthy of the consideration of the authorities of the medical schools, especially of those schools that have a large number of students and only a small hospital. That there are difficulties in the way no one will deny; the question is whether they are worth surmounting.

THE CABUL EXPEDITION.

DR. TOWNSEND'S wound having necessitated his return to India, Surgeon-Major A. Dale, of the 1st Bengal Cavalry, has been appointed Principal Medical Officer of the Kurum force under Brigadier-General Gordon; Surgeon-Major J. A. Hanbury officiating as Deputy Surgeon-General of the Allahabad Circle, instead of proceeding to Kurum.

We regret to notice that some fatal cases of cholera have occurred at Cabul. The 67th and 92nd Highlanders have each reported some admissions, with one or two deaths. They are encamped at Siah Sungh, two miles from the city.

THE ELECTRIC LIGHT.

BEFORE further steps are taken to popularise the electric light it would be well to appoint a committee of experts to determine the effect of that agent on the organ of sight. It is, we think, by no means certain that the light can be used for ordinary purposes, such as reading and writing, without injury. In any event this is a matter for investigation, and the issue raised is too serious to be treated without due

consideration. There is a question that some peculiar effect is produced by this agent; and if the physical effects on the organism are in any degree proportioned to the sensation, they can scarcely be without consequence. The inquiry should, for the sake of inventors and the public, be undertaken and completed without needless delay.

THE MURCHISON MEMORIAL.

AT a meeting of the General Committee held on the 14th instant, Mr. Lister presiding, it was resolved, on a motion by Dr. Quain, seconded by Dr. Spencer Cobbold,—"That the competition in Edinburgh for the Murchison Memorial Clinical Scholarship be open to all students of the Edinburgh medical schools." It had previously been decided that none but University undergraduates should compete, but, a protest having been made against this exclusiveness by the lecturers in the extra-academical schools, it was thought best to throw the scholarship open, as had already been done in the case of the London schools. It is proposed that the award shall be made alternately by the Medical Faculty of the University in Edinburgh and the Royal College of Physicians in London, these being the two bodies with which the late Dr. Murchison was more especially connected.

DUBLIN SANITARY COMMISSION.

THE inquiry was resumed last week, when the several medical officers of the City dispensary districts were under examination. The evidence given by these gentlemen all tended to show that the excessive mortality of Dublin was largely due to the overcrowding and want of sanitary accommodation which exist in the various tenement houses in which the poorer classes reside, and to the saturated state of the subsoil; to intemperate habits, bad food, insufficient clothing, and the dirty habits of the lower orders. Mr. Croly, senior surgeon to the City of Dublin Hospital, made a very valuable suggestion, which, we believe, might be adopted with advantage. He considered it desirable that an "observation ward" should be opened in hospitals, so that when a patient whose disease was not yet developed was sent to hospital, he might be retained there until the nature of his disease was exactly known.

TYPHOID FEVER IN CHESTER COUNTY LUNATIC ASYLUM.

A FORMIDABLE outbreak of typhoid fever is reported to have occurred in the Chester County Lunatic Asylum. Twenty residents in the institution, it is stated, have been attacked, including the medical officers, the chaplain and his wife, and three servants of their household. The chaplain's wife has died from the disease, and several of the patients are dangerously ill. The outbreak is assigned to defects in the sewerage of the asylum. This was only completed, as a new scheme, in the course of last year; but on examination of several drains, after the outbreak had occurred, these were found entirely choked. The sewage from the asylum is, however, distributed over land in the immediate vicinity of the building, and this is described as having been converted into a noisome sewage swamp.

PHILLIPS v. THE LONDON AND SOUTH-WESTERN RAILWAY COMPANY.

A NEW trial has resulted in the award of £16,000 instead of £7000. This sum, although better than that first awarded, is practically inadequate; but it seems to have been arrived at by computing the income of the last three years of the disabled gentleman's practice. There has, therefore, on this occasion been a certain amount of principle in the estimate formed. Surely there should be a rule in these cases, and the damages to be awarded ought to be assessed on the basis of "probable years of life," not wholly at the caprice of a jury, or on the rough and ready fashion adopted by the assessors of income-tax.

A PROPOSAL is on foot to present Mr. Luther Holden with a testimonial in recognition of his long and valuable services to the profession, and to St. Bartholomew's Hospital and its medical school. The present opportunity has been embraced as Mr. Holden is this year President of the Royal College of Surgeons and senior surgeon to St. Bartholomew's Hospital. Dr. Robert Martin is treasurer of the fund, and Mr. Langton and Mr. Marsh hon. secretaries. Subscriptions, which are limited to three guineas, may be sent to either of these gentlemen, addressed to St. Bartholomew's Hospital.

ABOUT three years ago Professor Schäfer, F.R.S., was appointed by the Obstetrical Society to make experiments with a view to determine the fluids which may be used with benefit in transfusion, and the best way of performing the operation. Mr. Schäfer has presented his report, and it will be read and discussed at the next meeting of the Society, on Dec. 3rd.

DR. JOHN B. MAWER, Bucharest, has received, through Sir Henry Layard, the Order of the Medjidie, fourth class, together with the firman authorising him to wear it, from his Majesty the Sultan, in recognition of his services to the Turkish sick and wounded during the late war.

THE Newbury Town Council at their last meeting had under consideration a letter from the Local Government Board urging the appointment of a public analyst. The Town Clerk said that in his opinion it was compulsory; but a resolution was, nevertheless, carried to "pass the matter on."

INSANITY IN THE METROPOLIS.

IF we accept the figures relating to pauper lunacy published by the Commissioners in Lunacy, in their last annual report, as trustworthy indications of the local incidence of insanity, we cannot avoid the conclusion that the proportion of persons of unsound mind to the total population, on the 1st January last, was equal to 3·54 per 1000 in the metropolis, whereas in the rest of England and Wales it did not exceed 2·28 per 1000. This signifies that the proportional prevalence of insanity in the metropolis exceeds by 55 per cent. its prevalence in the remainder of England and Wales. Now, if such a startling conclusion is well founded, and if insanity be a disease dependent in great measure, like other diseases, upon what is broadly signified by sanitary condition, we should expect to find in the Registrar-General's elaborate statistics of the causes of death some corroboration of this alarming prevalence of brain disease in the metropolis. In the last published annual report of the Registrar-General it is shown that during the year 1877 the death-rate from brain diseases was equal to 2·75 per 1000 in England and Wales, but did not exceed 2·55 in London. The Registrar-General's nosological classification includes "convulsions" among diseases of the brain, and as it is probable that but a small proportion of deaths so returned is the result of brain disease it is desirable to exclude these deaths. The death-rate from brain diseases, definitely so returned, in England and Wales in 1877 was equal to 1·77 per 1000, while in London it was 1·81. Thus brain disease was slightly more fatal in London than in the whole of England and Wales; but there is no evidence corroborative of the conclusion, based upon the statistics of the Commissioners in Lunacy, that insanity is more prevalent in London than in the rest of England and Wales to the extent of 55 per cent. It becomes important, therefore, to consider the cause of the apparent

excess of prevailing lunacy in London, shown by the reports of the Commissioners in Lunacy. The error so frequently committed by the lay press and the public, in attributing the increase of inmates of lunatic asylums entirely to increase of lunacy, is too transparent to call for refutation here. It would seem, however, that by dealing with the total numbers registered as of unsound mind, whether in asylums or workhouse establishments, or residing with relatives or others, this source of error must be avoided. But the metropolitan figures afford good ground for doubting whether this be the case. It should not be forgotten that there is no uniform or scientific system of certification for those cases returned as of unsound mind in workhouses (including the metropolitan asylums for imbeciles) or residing with relatives and others. The classification is, indeed, of such an arbitrary character as to be liable to much elasticity at the hands of the various authorities making the returns. It is beyond doubt that the provision of asylum accommodation stimulates the return of paupers as of unsound mind. The metropolitan insanity figures for the past ten years afford striking confirmation of this fact. During this decade, the asylum accommodation of the metropolis has been increased, not only by the metropolitan asylums at Leavesden, Caterham, and Darenth (which contained 4312 inmates on 1st January last), but also still more recently by the opening of a new Middlesex County Asylum at Banstead. With a view to analyse the large increase of recorded lunacy within the metropolitan area in recent years, we were desirous to compare the figures returned on January 1st, 1870, with those on the 1st January last, as at the earlier date the new asylums for imbeciles at Leavesden and Caterham had not been brought into use. The Lunacy Commissioners' report for 1870, however, does not contain the necessary information, and we had to content ourselves with the figures for January 1st, 1871, when 991 inmates had been already received at Leavesden, and 314 at Caterham. On January 1st, 1871, the proportion of persons returned as of unsound mind was equal to 2·84 per 1000 in the metropolis, and did not exceed 2·12 in the rest of England and Wales; on 1st January last these proportions had increased to 3·54 and 2·28 per 1000 respectively. Thus in the eight years 1871–8 the amount of recorded lunacy, after due allowance for increase of population, showed an increase of 24·6 per cent. in London, while in the rest of England and Wales the increase did not exceed 7·5 per cent. This rapid increase of recorded lunacy in the metropolis since 1871, concurrently with the increase of asylum accommodation at Leavesden, Caterham, and Darenth is conclusive of the existence of an intimate relation between the amount of asylum accommodation and of recorded lunacy. The metropolitan asylums at Leavesden and Caterham have proved an eminent success from a financial as well as from a humanitarian point of view. These convenient and economical refuges for imbecile paupers, intended to relieve the metropolitan workhouses of the inmates of their insane wards, have tempted the parochial authorities to utilise, and, indeed, to over-fill them, with cases of old and troublesome paupers, for many of which these institutions were never intended. A large proportion of the inmates, moreover, prior to the establishment of these institutions, would never have been classed as of "unsound mind." Except from a statistical point of view, the transfer of so large a proportion of the aged and helpless poor from the neglect of pauper nurses in the London workhouses, to the care and medical treatment available in the metropolitan asylums, is an unmixed benefit. The increase to the metropolitan ratepayer is slight, and the mortality statistics of these institutions afford convincing proof of the benefit to the inmates. Statistically, however, this strong inducement in recent years to enlarge the interpretation of the term "unsound mind" has a tendency to destroy the value of the figures published by the Commissioners in Lunacy as a basis for estimating the extent and increase of lunacy. A third metropolitan asylum for imbeciles is now in course of erection at Darenth, the completion of which will undoubtedly result in a further marked increase in the number and proportion of recorded cases of lunacy in the metropolis. This will not, however, signify a true increase of insanity. Nothing but a scientific and uniform certification of all cases of "unsound mind" will render the figures of the Commissioners in Lunacy trustworthy for statistical deductions. Without it all attempts to answer the question, "Is insanity increasing?" or to estimate the extent of the increase, generally or locally, is little more than random guessing.

HEALTH OF LARGE ENGLISH TOWNS.

FORTY-SIXTH WEEK OF 1879.

As may be expected at this season, the rate of mortality showed a further increase last week. In twenty of the largest English towns, containing nearly a third of the entire population of England and Wales, 5114 births and 3220 deaths were registered in the week ending last Saturday. The births were 68, and the deaths 150, below the average weekly numbers during 1878. The deaths showed a further increase of 91 upon recent weekly numbers. The annual death-rate, which had been equal to 21·9 and 22·1 in the two preceding weeks, further rose to 22·8 last week. During the past seven weeks of the current quarter, the death-rate in the twenty towns has averaged 21·3 per 1000, against 21·7 and 22·2 in the corresponding periods of 1877 and 1878. The lowest death-rates in these twenty towns last week were 16·8 in Sunderland, 17·8 in Bradford, 18·3 in Plymouth, and 18·8 both in Birmingham and Brighton. The rate in the other towns ranged upwards to 24·0 in Nottingham, 25·6 in Leeds, 26·2 in Liverpool, 26·2 in Leicester, and 27·5 in Hull. The deaths referred to the seven principal zymotic diseases in the twenty towns, which had been 442 and 489 in the two preceding weeks, further rose to 541 last week, owing mainly to the increased fatality of scarlet fever and measles; 209 resulted from acute fever, 122 from measles, 75 from whooping-cough, and 70 from diarrhœa. The annual death-rate from these seven diseases averaged 3·8 per 1000 in the twenty towns, and ranged from 0·0 and 1·2 in Plymouth and Portsmouth, to 4·6 in Sheffield, 4·7 in Liverpool, 4·9 in Brighton, and 6·0 in Newcastle-upon-Tyne. The fatality of scarlet fever continues to increase; 209 deaths were referred to this disease against 154 and 192 in the two preceding weeks, the fatal cases being proportionally most numerous in Newcastle-upon-Tyne and Sunderland. The fatality of measles was greater in London, Birmingham, Liverpool, and Leeds. Of the 22 deaths referred to diphtheria, 14 occurred in London and 3 in Manchester. The death-rate from fever was highest in Portsmouth. No death from small-pox was recorded in any of the twenty large towns. The Metropolitan Asylum Hospitals contained, however, 46 small-pox patients at the end of last week, against 36, 37, and 41 on the three preceding Saturdays; 10 new cases were admitted to those hospitals during the week. Small-pox is still prevalent in Dublin, where 46 fatal cases have been recorded since the end of September.

Judged by the metropolitan returns, the further increase of mortality last week was not due to greater fatality of diseases of the respiratory organs. The deaths referred to these diseases in London were 401 last week, against a number increasing steadily from 190 to 405 in the five preceeding weeks.

THE RETURN MARCH FROM AFGHANISTAN.

WE have great pleasure in republishing the following General Orders by his Excellency Sir F. Haines, the Commander-in-Chief in India, dated Simla, Oct. 14th, 1879:—

1. The Commander-in-Chief has had before him a report from the Surgeon-General of British troops of the medical arrangements and events connected with the return to India from Afghanistan, through the Khyber Pass, in June last, of the 1st and 2nd Divisions of the Peshawur Valley Field Force.

2. With cholera on the line of march, excessive heat, entire absence of shade, and a scarcity of water, the return march of the advanced columns must be considered one of the most trying operations of the war, and his Excellency is gratified to learn that the troops met the hardships to which they were inevitably exposed with cheerfulness, and that throughout an excellent and self-denying spirit animated all ranks.

3. Sir Frederick Haines desires, however, to place more especially on record his appreciation of the valuable services rendered to the army on the occasion referred to by the

medical staff of both services during the march itself, and subsequently in the severe outbreak of cholera, to which the garrisons in the Khyber and at Peshawur were subjected.

4. That the medical staff did not spare themselves in meeting the anxious and arduous responsibilities that devolved upon them is too sadly proved by the lamentable death within a few weeks of four of their number (Surgeon-Majors Kelsall, Wright, Gray, and Wallace), and the large amount of sickness amongst the remainder.

5. While grateful to all for the zeal and devotion displayed in the discharge of most trying duties, the Commander-in-Chief is more especially so to Surgeon-Majors J. H. Porter and J. A. Hanbury, of the British Medical Service, for their able and efficient arrangements; and to Surgeon-Major C. J. McKenna, and Surgeons S. H. Browne and W. H. Cadge, of the Indian Medical Department, and Surgeon-Majors Melville Jones, G. J. H. Evatt, and H. Cornish, and Surgeons C. P. Turner and W. J. Le Grand, of the British Medical Service, for their praiseworthy exertions.

6. Sir Frederick Haines is authorised to state that His Excellency the Viceroy and Governor-General in Council entertains the highest opinion of the efficient and meritorious services performed by the medical officers in the late campaign and on the return march to India; and, while deploring the loss of so many valuable officers, his Excellency has requested the Commander-in-Chief to communicate the thanks of the Government of India to the members of the two services generally, and specially to those named in the preceding paragraph; and to the undermentioned officers who have also been brought to notice for their good services during the campaign:—

1st Division Peshawur Valley Field Force.—Deputy Surgeon-General J. Gibbons, British Medical Service, Principal Medical Officer; Surgeon-Major G. S. Davie, British Medical Service, in charge Divisional Field Hospital; Surgeon-Major F. W. Moore, British Medical Service, in charge Base Hospital, Peshawar; Surgeon-Majors R. F. Hutchinson, S. C. Amesbury, G. C. Chesnaye, A. P. Holmes, H. Cookson, Surgeon H. Mallins, of the Indian Medical Service.

2nd Division Peshawar Valley Field Force.—Surgeon-Major A. M. Tippetts, British Medical Service, temporary Principal Medical Officer; Surgeon-Major N. Ffolliott, British Medical Service, Base Hospital.

Kurum Force.—Deputy Surgeon-General F. F. Allen, C.B., Indian Medical Service, Principal Medical Officer; Deputy Surgeon-General S. C. Townsend, Indian Medical Service; Surgeon-Major J. Meane, British Medical Service, Senior Medical Officer; Surgeon-Major Curtiss Martin, British Medical Service, in charge Base Hospital, Kohat, and subsequently of Field Hospital; Surgeon-Major W. Nash, British Medical Service, Field Hospital, Ali Kheyl; Surgeon-Major G. J. Gibson, British Medical Service, Field Hospital, Peiwar.

Kandahar Force.—Deputy Surgeon-General A. Smith, British Medical Service, Principal Medical Officer under General Stewart; Deputy Surgeon-General J. Hendley, British Medical Service, Principal Medical Officer, Quetta Force; Surgeon-Major W. S. Whylock, British Medical Service, Field Hospital, Kandahar; Surgeon-Major J. B. C. Reade, British Medical Service, Field Hospital, Kandahar Force; Surgeon-Major W. G. N. Manley, V.C., British Medical Service, Field Hospital, Quetta Field Force; Surgeon-Major J. J. McCarthy, British Medical Service, Divisional Base Hospital, Quetta; Surgeon M. Knox, British Medical Service, serving with Field Divisional Hospital.

Warrant Medical Officers.—Apothecaries E. Vyall, J. Hogan, H. C. Hodgkins, C. Cordell, J. Barker, H. I. Finnamore, J. Forsyth, P. Barrett,—in sub-medical charge of the several field and base hospitals attached to all the columns.

7. His Excellency in Council also desired his warmest acknowledgments to be conveyed to Surgeon-General J. H. Ker Innes, C.B., for the very valuable aid he has rendered the Government. Sir Frederick Haines would add his own sincere thanks for the ready and able assistance he has at all times received from Surgeon-General Innes, who has added to a remarkable list of previous campaigns, the distinction of having most successfully administered the medical department in the field throughout the late Afghan War.

The Surgeon-General prominently notes the valuable services rendered to him by his secretary, Surgeon-Major J. A. Marston, M.D., Army Medical Department.

Correspondence.

"Audi alteram partem."

DEATH DURING A PAROXYSM OF GALL-STONE.

To the Editor of THE LANCET.

SIR,—In the introductory paragraph of his second paper on "the complications connected with the passage of gall-stones," Dr. Habershon says that he has three times known death take place during a paroxysm of gall-stone, and that in each case a calculus was found at the duodenal orifice of the duct. Coming from a physician of such authority, this seems to imply that an occurrence of this kind is very far from common, and I am induced by this statement to mention a case which was lately under my own care.

The patient, a woman, aged fifty, had for a year previous to her death suffered every fortnight or three weeks from a violent attack evidently arising from the passage, or more probably the attempted passage, of a gall-stone. These attacks varied in duration and severity, but were all followed by more or less jaundice. The patient rapidly emaciated, her weight diminishing from 16st. to 10½st. in twelve months. On January 8th she was suddenly seized with agonising pain which nothing relieved. Intense jaundice quickly ensued. The pain never abated, and on 12th January, four days after the seizure, the patient expired suddenly, directly after attempting to relieve the bowels. The post-mortem was made by Dr. David Grant, and a very rough, egg-shaped gall-stone, an inch long, was found plugging the duodenal orifice of the duct, one end projecting about three-eighths of an inch into the duodenum, and pushing before it an inverted covering of the duct. Dr. Coghill, who saw the case in consultation with me, was also present at the examination, and the specimen was exhibited at the time to the Isle of Wight Medico-Chirurgical Society.

Next to hints on treatment practitioners welcome hints on prognosis; and if it is clear that cases like these are really rare, it is important to realise the fact. The demand for a prognosis is often in proportion to the pain of the disease. In a severe case of gall-stones the agony is so excruciating that the medical attendant has not only to meet the alarm of the patient's friends, but he has to face his own misgivings about the immediate results of the paroxysm. It will be of considerable importance, under such circumstances, if we may feel assured that the chances are very largely against the patient's being killed outright by the intensity of his suffering.—I remain, Sir, your obedient servant,

JAMES M. WILLIAMSON, M.D.

Ventnor, 17th November, 1879.

"LUXURIA."

To the Editor of THE LANCET.

SIR,—Believing that anything which throws light on pathological history would be acceptable to a medical journal of such experience and reputation as THE LANCET, I venture on sending you certain extracts from vol. ii. of the Theological Dictionary of Thomas Gascoigne (1403–1458) which seem to indicate that a disease was prevalent in England during the first half of the fifteenth century, and even earlier, which seems exceedingly like syphilis, though it long precedes the commonly reputed date of the introduction of this disease into Europe. The passages which I forward you are extracted from that part of the Dictionary which deals with Luxuria—a term used by mediæval writers to denote sexual immorality. Those members of the medical profession who are acquainted with the history of disease will perhaps consider these contributions not unwelcome. At any rate they will be able to estimate their value in a manner which one who merely entered, forty years ago or thereabouts, on the fringe of the profession, cannot.

Yours faithfully,

Oxford, Nov. 1879. JAMES E. THOROLD ROGERS.

"Novi in confessione virorum anno 1443 quod plures viri per actum libidinosum luxuriæ habuerunt membra sua cor-

rupta et penitus destructa, non solum virgam, sed genitalia, et alii habuerunt membra sua per luxuriam corrupta ita quod cogebantur propter pœnam caput virgæ abscindere. Item homo Oxoniæ scholaris, Morland nomine, mortuus fuit Oxoniæ ex corruptione causata per actum luxuriæ." (p. 37.)

"Novi enim ego, Magister Thomas Gascoygne, licet indignus, sacræ theologiæ doctor, qui hæc scripsi et collegi diversos viros qui mortui fuerunt ex putrefactione membrorum suorum genitalium et corporis sui, quæ corruptio et putrefactio, ut ipsi dixerunt, causata fuit per exercitium copulæ carnalis cum mulieribus. Magnus etiam dux in Anglia, scilicet J. de Gaunt, mortuus est ex tali putrefactione membrorum genitalium et corporis sui causata per frequentationem mulierum. Magnus enim fornicator fuit, ut in toto regno Angliæ divulgabatur, et ante mortem suam jacens sic infirmus in lecto eandem putrefactionem. Regi Angliæ Ricardo ijo. ostendit, cum idem rex ipsum ducem in sua infirmitate visitavit, et dixit mihi qui ista novit, unus fidelis theologiæ baccalaureus. Willelmus etiam Longe, vir maturæ ætatis et decentis, mortuus est ex tali putrefactione membrorum suorum genitalium et corporis sui causata per copulam carnalem cum mulieribus ut ipsemet pluries confessus est ante mortem suam quum manu sua propria eleemosinarie distribuit, ut ego novi anno domini millesimo ccccmo. xxxmo." (p. 47.)

"Unde tales libidinosi plures habent pœnam in eadem re in qua maxime delectantur sicut putrefactiones et corruptiones in membris secretis, et corruptionem corporis." (p. 53.)

ARMY MEDICAL DEPARTMENT.

To the Editor of THE LANCET.

SIR,—In your leader in THE LANCET of this day's date, on the subject of the new Warrant for the Army Medical Department, one very important question appears to have escaped your notice; it is, whether the Indian Government will grant the allowances appertaining to the rank of captain to surgeons coming in on this new Warrant on their arrival in India, for it should be borne in mind that the allowances to which they were justly entitled were withheld from surgeon-majors for a considerable time by that Government, but were eventually tardily conceded.

As a large portion of the service of every medical officer has to be passed in India, and as men are almost certain to be ordered there immediately on being commissioned, it is desirable that this question should be cleared up as soon as possible, so that intending candidates may know whether or not for the first five or six years of their service they will have to endeavour to subsist on the miserable pittance of £24 a month, which, owing to the fall in value of the rupee, is what their pay and allowances, with the rank of lieutenant, would entitle them to now, being infinitely worse than they were some ten years ago, when they amounted to £31 14s. I am, Sir, your obedient servant,

London, Nov. 15th, 1879. M.D.

NAVAL MEDICAL SERVICE.

To the Editor of THE LANCET.

SIR,—Owing in a great measure to your able advocacy our army brethren are about to receive a liberal scale of pay and retirement; and as doubtless, sooner or later, it will be found necessary by the naval authorities to assimilate our condition in these respects to that of the more popular service, I beg to direct attention afresh to the disadvantages of the Naval as compared with the Army Medical Service.

Apart from all questions of pay or retirement, the following grievances render our service unpopular, and require to be dealt with in a liberal and broad-minded manner:—

1. Compulsory half-pay. In the November Navy List there are eighty-nine fleet surgeons, and deducting from these nine who attained the rank before completing twenty years' service (i.e., special promotions for war, &c.), there remain eighty who, before they attained fleet rank, lost in the aggregate 160 years and 276 days, an average of two years and four days.

2. With rare exceptions there is no sick leave on full pay. When an officer is invalided home from a foreign station he is placed on half pay the day he lands in England.

3. We have no roster; by that I mean a list open to the inspection of medical officers, and which might be regulated in a similar manner to that of the Marines.

4. We are not permitted to exchange.

5. Choice of quarters (i.e., cabins) is not according to our rank. And this is a more important point to us than to our army *confrères*, for daylight and fresh air are important factors in the prolongation of life. The mortality amongst naval medical men is very large. Of those whose names appear in the January Navy List of 1865, a period of less than fifteen years, more than one-third are dead.

6. To the end of your service you must expect to be confined to the ship or to hospital every alternate day, and this extends to the administrative grades. For instance, at our large naval hospitals, a deputy inspector, a fleet or staff surgeon, and two surgeons, are always on duty, and confined to the hospital precincts.—I am, Sir, yours, &c.,

Nov. 17th, 1879. SPERO MELIORA.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the required examination for the diploma, were duly admitted Members of the College at a meeting of the Court of Examiners on the 17th inst.:—

Bowe, Francis, L.S.A., Shipley, Yorkshire.
Cama, Rastamji Hormasji, L.M., Bombay.
Fellowes, H. T. A. Butler, L.S.A., Chobham.
Gabe, John, L.S.A., Merthyr Tydfil.
Harrison, James, L.S.A., Windermere.
Mead, George Owen, L.R.C.P. Ed., Newmarket.
Murray, Henry Walker, M.B. Dub., Limerick.
Parsons, Herbert Flower, L.S.A., Frome, Somerset.
Pearce, John Puckey, L.S.A., Biscovy.
Purkiss, Arthur, M.B. Aberd., Lansdowne-road.
Sanders, John William, L.S.A., Trowbridge.
Veale, William Edward, L.S.A., Plymouth.
Walker, John Sydenham, L.S.A., Adelphi-terrace.
Whiteley, George William, L.R.C.P. Ed., Wakefield.

The following gentlemen passed on the 18th inst.:—

Ansted, H. L. Petrel, Melton, Suffolk.
Benthall, A. Elliott, Sherborne, Dorset.
Betts, E. George, L.S.A., Holloway-road.
Cleaver, J. C. Carleton, Kingston, Canada.
Davies, J. M. Lloyd, L.R.C.P. Ed., Cardigan, S. Wales.
Farrer, R. Thompson, Bryhouse, Yorks.
Fialho, J. Henrique, L.R.C.P. Ed., Goa.
Gwynn, R. Henry, L.R.C.P. Ed., Caterham, Surrey.
Haycroft, C. Henry, L.S.A., Starcross, Devon.
Hill, H. Gardiner, Earl's Court, Kensington.
Howell, T. A. Ives, L.R.C.P. Lond., Wandsworth.
Hudson, T. Joseph, Cottingham, Yorks.
Jefferson, A. John, L.S.A., New Hampton.
Jones, Charles M. Handfield, Green-street.
Lawford, J. Bowring, M.D. McGill Coll., Montreal.
Liebstein, H. John, L.S.A., Highbury-hill.
Luckman, E. Llewellyn, Manchester.
Maberly, H. Edward, Birmingham.
Maddick, E. Distin, L.R.C.P. Ed., Brixton.
Michell, J. Thomas, M.B. Aberd., Adelaide, S. Australia.
Morgan, James, L.R.C.P. Ed., Holloway-road.
Parker, W. Rushton, Liverpool.
Penruddocke, Charles, Bristol.
Preston, H. Folver, M.B. & C.M. Aberd., Bournmouth.
Priest, J. Damer, L.S.A., Waltham Abbey.
Pilkington, George, L.R.C.P. Ed., Yarm-on-Tees.
Smith, Sydney, L.R.C.P. Lond., Weston-super-Mare.
Steele, Richard, L.R.C.P. Ed., Blackheath.
Sutcliffe, John, Staleybridge.
Swindells, J. Adam, Holmes Chapel, Chester.
Tarleton, Paul, L.R.C.P. Ed., Leamington
Taylor, David, M.D. Dub., Belfast.
Thomson, G. J. Crawford, L.S.A., Amberly.
Vinrace, F. Coulson, Birmingham.
Willoughby, J. F. Digby, South Audley-street.
Wright, C. St. John, L.S.A., Priors Marston.

The following gentlemen passed on the 19th inst.:—

Barnes, John B., Thornhill-crescent.
Bernard, Alfred G. F., Birmingham.
Close, Percy, York.
Compton, Francis C., L.R.C.P. Ed., Hans-place.
Cuffe, Edward M., Woodhall Spa.
Firth, Robert H., Ware, Herts.
Griffith, Edward P., Oakley-square.
Gwillim, Richard D. H., Marlborough, Wilts.
Hare, Francis W. E., Welbeck-street.
Henderson, William H., M.D. Kingston, Canada.
Humphry, Laurence, Princes-square.
Jones, George H. W., L.S.A., Eckington, Chesterfield.
Millican, Kenneth W., Shepherd's-bush.
Nicholson, Ranald W. E. H., Exeter.
Penny, William J., Crewkerne.
Pollard, Bilton, West Dulwich.
Rentoul, Robert Reid, L.R.C.P. Ed., Lisburn, co. Antrim.
Smyth, Sydney, East Worlington, Devon.
Swabey, Louis W., Faringdon, Berks.

UNIVERSITY OF LONDON.—The following is a list of the candidates who have passed the recent Second M.B. Examination :—

FIRST DIVISION.

Andrews, William Stratford, University College.
Barling, Gilbert Harry, St. Bartholomew's Hospital.
Bond, James William, University College.
Boyd, James Stanley Newton, University College.
Buckell, Arthur Edward, University College.
Colquhoun, Daniel, Charing-cross Hospital.
Cross, Francis Richardson, King's College.
Dunbar, James John Macwhirter, St. George's Hospital.
Fuller, Thomas Warberton, Guy's Hospital.
Gabb, James Percy Alwyne, University College.
Hayward, Thomas Ernest, St. Bartholomew's Hospital.
Herman, George Ernest, London Hospital.
Hine, John Edward, University College.
Hughes, Richard, St. Bartholomew's and Middlesex Hospitals and Manchester Royal Infirmary.
Mackern, George, Guy's Hospital.
Pughe, Tiaeliesin Wilim Owen, Liverpool Royal Infirmary and Guy's Hospital.
Russell, George Hannah, Guy's Hospital.
Sainsbury, Harrington, University College.
Sheppard, Charles Edward, St. Thomas's Hospital.
Smith, Robert Percy, St. Thomas's Hospital.
White, William Hale, Guy's Hospital.
Williams, Dawson, University College.

SECOND DIVISION.

Barker, Frederick Rowland, St. Thomas's Hospital.
Beevor, Charles Edward, University College.
Dymott, Donald Frederick, University College.
Forsbrook, William Henry Russell, Westminster Hospital.
Gill, Richard, B.Sc., St. Bartholomew's Hospital.
Hayle, Thomas Hahnemann, Owens College and Manchester Royal Infirmary.
Hudson, James, University College.
Lendon, Alfred Austin, University College and Middlesex Hospital
Maylard, Alfred Ernest, Guy's Hospital.
Neale, William Henry, University College.
Shain, William Frederick, Liverpool School of Medicine.
Taylor, Harold Gilbertson, King's College.

APOTHECARIES' HALL.—The following gentlemen passed their examination in the Science and Practice of Medicine, and received certificates to practise, on Nov. 13th :—

Jefferson, Arthur John, New Hampton, Middlesex.
Liebstein, Herman John, Highbury-hill.
Priest, James Damer, Waltham Abbey.
Rice, Richd., Little Barrington Vicarage, Burford, Oxon.
Thorn, Wm. Hershell Perceval, Harrow-road.

The following gentleman on the same day passed the Primary Professional Examination :—

Bertolacci, John Hewetson, St. George's Hospital.

COLLEGE OF PHYSICIANS IN IRELAND.—At the November examinations the following gentlemen obtained the licences in Medicine and Midwifery of the College :—

MEDICINE.—Wm. Henry Bourke, Robert Jonathan Baylor, Winthorp Benj. Browning, Valentine Plunket Dillon, Francis Joseph Doyle, Joseph Langan, Lucas Alfred Middleton, Arthur Patrick O'Connor, Daniel Ryan, Frederick Thomas Skerrett, John Christopher George Staley, Richard Henry Symes.

MIDWIFERY.—Wm. Henry Bourke, Robt. Jonathan Baylor, Abraham Cohen, Valentine P. Dillon, Francis J. Doyle, Joseph Langan, Lucas Alfred Middleton, Arthur P. O'Connor, John Dominic Quin, Daniel Ryan, Richard Henry Symes.

DR. WILLIAM JONES has been unanimously elected Mayor of Ruthin for the ensuing year.

MR. HENRY CARTER, M.R.C.S. Eng., has obtained a superannuation allowance of £56 per annum on resigning as medical officer for the Portsea town district of the Portsea Island Union.

VICTORIA HOSPITAL FOR CHILDREN, CHELSEA.—On the 2nd of December a concert will be given at St. James's Hall, under the immediate patronage of the Princess Louise, who has promised to be present, for the benefit of the hospital.

QUEEN'S COLLEGE, CORK.—The magnificent equatorial telescope, constructed for the new observatory of the Queen's College, Cork, and which at the Paris Exhibition was considered one of the most successful achievements of modern mechanical science, has been placed in position.

CAPTAIN W. H. ALLSOPP, Worcestershire Militia, has introduced a sample waistcoat, which cannot fail to be a great boon to the private soldier during the winter months. It fulfils all medical requirements, and for utility, comfort, economy, warmth, and good taste, can hardly be surpassed. It can be worn either inside the trews or outside, when in barrack square or camp. It commends itself to all as *simplex munditiis.—United Service Gazette.*

THE MEDICO-PSYCHOLOGICAL ASSOCIATION.—The quarterly meeting of the Association was held on the 13th inst., at 53, Berners-street, Oxford-street, Dr. Lusk, M.P., President of the Association, in the chair. Dr. Wilkie Burman read a paper on the separate care and treatment of acute and curable cases in asylums, with proposals and suggestions for a detached hospital for special purposes, in connexion with very large public lunatic asylums. An interesting discussion followed, and the further consideration of the subject was adjourned till the next meeting. Dr. Hack Tuke exhibited a brain preserved by Giacomini's method.

THE will of Dr. Patrick Black, formerly of St. Bartholomew's Hospital, but late of Queen Anne-street, who died on the 12th ult., was proved on the 5th inst. by Mrs. Jane Louisa Black, the widow, Miss Jane Emma Black, the daughter, and Mr. Arthur Black, the son, the executors, the personal estate being sworn under £60,000. The testator makes bequests to members of his family and servants; to his wife he leaves his residence in Queen Anne-street, with the goods, chattels, and effects. The residue of his property is to be held upon trust for her for life, and at her decease for his issue as she shall by deed or will appoint.—*City Press.*

GENEROUS DONATIONS.—A wealthy City parish (says the *City Press*) having of late considerably augmented the income arising out of a charitable bequest, and finding that the proceeds far exceed the provisions of the ancient donor, has decided to apply to the Charity Commissioners for authority to make the following donations—viz.: The London Hospital, £1000; Metropolitan Free Hospital, £500; King's College Hospital, £250; Victoria Park Hospital, £250; Westminster Hospital, £250; and the City of London College, £250,—making a total of £2500; in addition to advancing the allowances to the qualified recipients of the charity 25 per cent. The London Hospital has before received from the same source a similar gift of £1000.

Medical Appointments.

ARMSTRONG, H. G., has been appointed Assistant-Surgeon to the Royal Berks Hospital.

BEATTIE, J. A., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Assistant Medical Officer, Hospital for the Insane, Parramatta, New South Wales, vice Scholes.

BLACKMAN, J. G., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the Portsea Town District of the Portsea Island Union, vice Carter, resigned and superannuated.

BLAXLAND, H., L.R.C.P.I., M.R.C.S.E., has been appointed Assistant Medical Officer, Hospital for the Insane, Gladesville, New South Wales, vice Erith.

CARRE, F., L.K.Q.C.P.I. & L.M., F.R.C.S.I., has been appointed Certifying Factory Surgeon for the District of Letterkenny, co. Donegal.

CHEESE, J., L.R.C.P.L., M.R.C.S.E., has been appointed Resident Medical Officer to the Exeter Friendly Societies Medical Association, which will be opened on the 1st of January next.

COOPER, J. N., L.K.Q.C.P.I., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the No. 7 District of the Ashton-under-Lyne Union, vice Beecroft, resigned.

CROPP, F. J., L.R.C.P.Ed., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer for the No. 9 District of the Hexham Union, Northumberland, vice Roberts, resigned.

DAVIES, D., M.R.C.S.E., L.S.A.L., has been appointed Lecturer on Hygiene at the University College Medical School, Bristol.

DUKES, W. P., L.R.C.P.Ed., M.R.C.S.E., has been appointed Surgeon to the Social Union Friendly Society, Duke-street, Aldgate, vice Samuel, resigned.

EDMUNDS, R., L.R.C.P.Ed. & L.M., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the Pontypool District of the Pontypool Union, and Certifying Factory Surgeon, vice Pearse, resigned.

EVANS, F. M., L.R.C.P.L., M.R.C.S.E., has been appointed a Medical Officer to the Royal Pimlico Dispensary, vice Seccombe, resigned.

FREEMAN, W. T., L.R.C.P.L., M.R.C.S.E., has been appointed House-Surgeon to the Brighton and Hove Lying-in Institution and Hospital for Women and Children.

GUTTERIDGE, E. P., M.R.C.S.E., L.S.A.L., has been reappointed Medical Officer of Health for the Maldon Port Sanitary District, Essex, at £10 10s. per annum.

HININGS, J. W., L.R.C.P.Ed., L.R.C.S.Ed., M.R.C.S.E., has been appointed Medical Officer and Public Vaccinator for the No. 2 District of the Bromyard Union, at £150 per annum, vice Etheredge, deceased.

HUGOE, W. P., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the St. Agnes District of the Truro Union, and Medical Officer of Health for the St. Agnes Sub-district of the Truro Rural Sanitary District, vice Markby, resigned.

IRVING, C., L.R.C.P.L., M.R.C.S.E., has been appointed Surgeon to the Cyprus Police.

JACKSON, C., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Certifying Factory Surgeon for the District of Ballyhaise, co. Cavan.

JOSEPH, T. M., M.R.C.S.E., L.R.C.P.L., has been appointed Medical Superintendent, Hospital for the Insane, Gladesville, New South Wales, vice Manning.

MACALISTER, A., M.D., has been appointed Professor of Anatomy and Surgery in the School of Physic, University of Dublin, vice Macdowel, whose appointment has expired.

MACNAMARA, R., L.K.Q.C.P.I. & L.M., L.R.C.S.I., has been appointed a Demonstrator of Anatomy at the Royal College of Surgeons in Ireland.

MANNING, F. N., M.D., has been appointed Inspector-General of the Insane, New South Wales.

MORLEY, E. J., M.R.C.S.E., L.R.C.P.L., has been appointed a Resident Medical Officer to the General Infirmary, Northampton, vice Elsmere, resigned.

O'CONNOR, F., L.K.Q.C.P.I., L.R.C.S.I., has been reappointed Medical Officer and Public Vaccinator for the No. 4 District of the North Witchford Union, Cambridgeshire.

OLIVER, J., M.B., has been appointed House-Surgeon to the Alnwick Infirmary, vice MacNamara, resigned.

ORPEN, A. R., L.K.Q.C.P.I., L.R.C.S.Ed., has been appointed Medical Officer for the Woodstock No. 1 District of the Woodstock Union.

OWEN, J., M.D., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer to the Bromyard Union Workhouse, at £50 per annum, vice Etheredge, deceased.

PATTERSON, G. H., L.R.C.P.L., M.R.C.S.E., has been appointed Junior House-Surgeon to the Macclesfield General Infirmary, vice Bradley, whose appointment has expired.

PITTS, R. Z., M.R.C.S.E., L.S.A.L., has been appointed Medical Officer and Public Vaccinator for the No. 3 District of the Chelmsford Union, vice Orpen, resigned.

SCHOLES, R. R., M.B., C.M., has been appointed Medical Superintendent, Hospital for the Insane, Callan-park, New South Wales, vice Manning.

SLINN, W. S., L.S.A.L., has been appointed Certifying Factory Surgeon for the District of Ampthill, Beds., vice Dowding, resigned.

TAYLOR, J., L.K.Q.C.P.I., L.R.C.S.I., has been appointed Medical Officer, Public Vaccinator, &c., for the Tandragee Dispensary District of the Banbridge Union, co. Down, at £100 per annum and fees, and £20 per annum as Medical Officer of Health, vice Hamilton, resigned.

WALTERS, J. H., M.R.C.S.E., L.M., L.S.A.L., has been appointed Assistant-Surgeon to the Royal Berkshire Hospital.

WELCH, S., M.R.C.S.E., has been appointed House-Surgeon to the West Bromwich District Hospital, vice Moore, resigned.

WIGGLESWORTH, J., M.B., L.R.C.P.L., M.R.C.S.E., has been appointed Assistant Medical Officer to the Lancashire Lunatic Asylum, Rainhill, vice Outhwaite, resigned.

WILKINS, G. H., M.R.C.S.E., has been appointed Medical Officer for No. 10 District of the Parish of St. Mary, Lambeth, vice Farnfield, resigned.

Births, Marriages, and Deaths.

BIRTHS.

DE LA MOTTE.—On the 8th inst., at Thorndean, Stalnes, the wife of Peter W. De la Motte, M.R.C.P.Ed., of a daughter.

DOUGAN.—On the 9th inst., at Florence-bank, Springburn, Glasgow, the wife of William Dougan, M.D., of a daughter.

FAWSSETT.—On the 15th inst., at Louth, Lincolnshire, the wife of Fred. Fawssett, of a son.

FERRIER.—On the 16th inst., at Upper Berkeley-street, the wife of David Ferrier, M.D., of a daughter.

GELL.—On the 13th inst., at St. John's Lodge, Kensal-green, the wife of T. Silverton Gell, M.D., of a son.

HILL.—On the 7th inst., at Abbey-road, the wife of Frederick A. Hill, L.R.C.P.L., of a daughter.

MUIR.—On the 8th inst., at Thorncroft, Selkirk, the wife of John S. Muir, M.B., of a son.

WHITELEY.—On the 12th inst., at Southgate, Wakefield, the wife of John Whiteley, M.R.C.S.E., of a son.

WHITING.—On the 11th inst., at Ebury-street, the wife of James D. C. Whiting, M.R.C.S.E., of a son.

MARRIAGES.

BEATTY—LETCHER.—On the 19th inst., at St. John's Church, Cinderford, by the Rev. Dr. Lynes, Robert Bryan Beatty, A.B., M.B.T.C.D., youngest son of the late Frederic Beatty, of 15, Herbert-place, Dublin, and formerly of Lake-park, co. Wicklow, Ireland, to Lydia Ann, daughter of E. Marcus Letcher, of Cinderford, Forest of Dean.

KIRKLAND—GRAHAM.—On the 13th inst., at Fairfield Presbyterian Church, Liverpool, James Kirkland, L.R.C.P.Ed., to Elizabeth Ridley, daughter of John Graham, Esq.

DEATHS.

ARDING.—On the 6th inst., at Wallingford, Willoughby Arding, M.D. aged 74.

BENHAM.—On the 14th September, at Santiago, Chili, of inflammation of the lungs, William T. Benham, M.D., British Vice-Consul, elder son of Dr. Benham, late of Camden House, St. Michael's-hill, Bristol, aged 32.

COLLIS.—On the 26th ult., at Port Blair, Andaman Islands, John George Collis, M.D., Surgeon, Army Medical Department.

WADE.—On the 12th inst., at the Royal Victoria Yard, Dover, Sexton Wade, M.R.C.S.E., Fleet-Surgeon, R.N.

WATTS.—On the 10th inst., at Thatcham, Berks, George Henry Watts, M.R.C.S.E., aged 61.

N.B.—*A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

METEOROLOGICAL READINGS.

(Taken daily at 8 a.m. by Steward's Instruments.)

THE LANCET OFFICE, Nov. 20th, 1879.

Date.	Barometer reduced to Sea Level, and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Max. Temp Shade	Min. Temp	Rain fall.	Remarks at 8.30 A.M.
Nov. 14	30·30	N.W.	35	32	..	44	30	..	Foggy
,, 15	30·42	W.	34	..	..	42	28	..	Foggy
,, 16	30·50	W.	32	..	..	43	24	..	Overcast
,, 17	30·27	W.	43	42	..	53	31	..	Foggy
,, 18	30·23	N.W.	53	50	..	56	42	..	Hazy
,, 19	30·30	N.E.	45	45	..	48	42	..	Overcast
,, 20	30·15	N.E.	36	33	..	37	33	..	Snowing

Notes, Short Comments, and Answers to Correspondents.

LIMEHOUSE AND THE PEABODY TRUST.

AT a recent meeting of the Limehouse vestry, a resolution was unanimously adopted to revive a movement for urging upon the trustees of the Peabody Fund the desirability of erecting a block of buildings in Limehouse. It appears that ten years ago a deputation from Limehouse waited upon the trustees to further this object, and received a promise that as soon as the undertakings then in progress were completed, the claims of Limehouse should be considered. It must be satisfactory to the trustees of the Peabody Fund to find that the value of their blocks of improved dwellings is so fully appreciated by the sanitary authority of Limehouse. On Sept. 30th last the eleven completed blocks of Peabody-buildings in different parts of the metropolis contained 9030 inhabitants. Two of the eleven blocks are situated in the East groups of registration districts; the Shadwell block had 297, and the Spitalfields block 287 residents, at the end of September. Considering, however, the numbers and the density of the population in East London, it appears to be open to doubt whether this portion of the metropolis has yet received its fair share of the benefits of the Peabody Fund. In epidemic seasons East London invariably suffers more severely than the rest of the metropolis, and improved dwellings, such as are erected with the funds of the Peabody Fund, would undoubtedly prove in Limehouse, as well as elsewhere, an important sanitary benefit.

Mr. Walter Lattey.—There are no special arrangements. The "Mirror" is available for reports of interesting cases occurring in hospitals.

SMALL-POX CASES AND GENERAL HOSPITALS.

To the Editor of THE LANCET.

SIR,—Will you allow me to call the attention of the managers of the London hospitals to clause 16 of the Poor-law Act, 1879? By this clause the Metropolitan Asylums Board may provide and maintain ambulances for the conveyance of persons suffering from any dangerous and infectious disorder, and employ such persons and do such other things as are necessary or proper for the purpose of such conveyance. This Act meets the want pointed out in my letter in THE LANCET, and in your leading article thereon, which appeared in July last. It will now surely be possible to have an ambulance placed within easy reach of every metropolitan hospital. To ensure this being done without further delay, I would suggest the propriety of a communication on the subject to the Metropolitan Asylums Board from every hospital in London. With such a provision, adequate arrangements can now be made everywhere for the effectual isolation of small-pox and other cases of infectious disease applying for relief at general hospitals.

I am, Sir, yours &c.,

HENRY C. BURDETT.

Seamen's Hospital, Greenwich, Nov. 18th, 1879.

F.R.C.S., (University College.)—The annual election of Fellows into the Council of the College of Surgeons will take place the first Thursday in July next. There are 1233 Fellows in the Calendar, 540 of whom have obtained the Fellowship by examination.

S. W. J. would be obliged to any of our correspondents for information on the subject of the demand and supply of medical services in South Australia or the Australian colonies generally.

A QUERY.

To the Editor of THE LANCET.

SIR,—Would any of your readers kindly inform me of the names of the hospitals and dispensaries in Great Britain and Ireland where an honorarium is given to the honorary medical officers? I should also like to know the sum given in each case, and the services expected from honorary medical officers, so as to entitle them to an honorarium.

Very truly yours,

Princes-road, Liverpool, Nov. 17th, 1879. JOHN C. CORMACK.

DOUBLE VAGINA AND CERVIX UTERI.

A CASE of this malformation is reported by Dr. W. R. D. Blackwood in the *Philadelphia Medical Times*. The cervix on the right side presented at an angle of about ten degrees, bending towards the right, and that of the left side made an angle of perhaps twenty degrees, pointing towards the left. Each cervix was normal in shape, size, and general characteristics. The body of the uterus was of the usual size, was freely movable, and not sensitive to pressure. After instrumental dilatation of the right cervical canal, the sound was introduced to the fundus, the length being 2½ in., that of the left 2⅜ in., the extra distance being clearly due to the lengthening of the cervix. The uterus was found to be parted into two cavities by a vertical septum, which was prolonged to the ostium vaginæ. It was proposed to divide the vaginal septum. The elastic ligature was employed, to avoid troublesome hæmorrhage. About an inch of tissue was included in the loop, which cut its way out in four days without much discomfort to the patient. Then two inches were similarly treated, and the section made, as before, in four days, the ligature requiring tightening on the second day. A third application severed another inch, leaving about one inch remaining between the right and left cervix. The idea of dividing the intra-uterine septum also was entertained, but the operation was postponed in consequence of the thickness of the triangular mass of tissue between the two os uteri, and at the time of penning the communication nothing in this direction had been attempted.

Mr. Arthur Russell.—We are not aware.

"MEDICAL RELIEF ON A LOAN SYSTEM."

To the Editor of THE LANCET.

SIR,—Amongst the annotations in your issue of the 8th inst., I notice one entitled "Medical Relief on a Loan System." In it you mention that at an annual conference of guardians of Surrey, Kent, Berks, Hants, and Sussex, held lately at Brighton, a resolution was passed, unanimously, urging that medical relief should be more constantly given on loan. And you go on to say that the medical profession will regard this action of the boards with satisfaction, for several reasons you mention.

Now, Sir, I should cordially agree with your views in this matter if my experience did not lead me to expect that the proposed scheme will be worked in an unfair manner, prejudicial to the existing interests of the Poor-law medical officers.

As a parish district medical officer of a large union, which shall be nameless, I will give my experience of the loan system so far as it has been carried out up to the present, and will then show you in what way it is unfair. You will then see why I view the supposed benefit with a certain amount of suspicion.

The loan system in this union is limited to "midwifery cases only." If a woman requires an order for her confinement, she must apply for it in person at a meeting of the Board of Guardians, although orders for ordinary medical attendance for herself, husband, or children would be given at the discretion only of the relieving officer. Applications for gratuitous midwifery orders must be totally refused, or a payment of 7*s.* 6*d.* to 15*s.* required *on loan*, although the applicant may have had gratuitous orders for general medical attendance a short time previously. Occasionally the husband is asked to make the application personally to the board, in which case he would have to lose a day's work, and perhaps also his situation. The result of this plan, which is carried out in a worrying manner to the poor, is a material diminution in the number of midwifery orders granted annually; for modest women when pregnant do not like to face a meeting consisting of men only, and their husbands will not do so. Besides, they cannot always pay the sum demanded, the loan system meaning generally, "Pay before you have the order." Consequently the women resort to the assistance of so-called midwives, who are generally the poorest and lowest of women, all ignorant of any obstetric knowledge, or even of cleanliness or sobriety. If a woman send when in labour to a relieving officer for a midwifery order, the husband is required to sign a paper, promising payment of the whole fee (15*s.*) The emoluments of a district medical appointment comprise a salary and extra fees, consisting principally of payment for midwifery cases. Now, the loan system robs a medical officer of his extras by lessening the obstetric cases, and therefore decreases his income, but does not also decrease that part of his work which is unremunerative. If the loan system were applied equally to all cases, I should not complain; but the present result is that my annual income amounts to about £50 less than it ought, whereas the yearly number of paupers attended is only decreased by the diminution in the midwifery cases.

Knowing that you are always willing to advocate the cause of any section of the medical profession, I have ventured to send you this letter for insertion, and feel sure that many of my fellow medical officers can, and perhaps will, corroborate my statements.

I am, Sir, yours faithfully,

Surrey, Nov. 12th, 1879. A P.L.M.O.

C. H.—There is a good portrait of David Middleton, Serjeant-Surgeon and Surgeon-General in the Army, in the Council-room of the Royal College of Surgeons.

Dr. Allen Duke will obtain information by referring to our advertising columns.

NURSING IN THE DUBLIN HOSPITALS.

IT having been stated that the nursing in some of the Dublin hospitals was objectionable, a meeting of the Council of the Dublin Hospital Sunday Fund was held in October, 1878, and a Committee appointed to inquire into the arrangements for nursing in each of the hospitals participating in the Fund, and to report on the subject. The report of the Committee has been embodied in the annual report of the Council for the past year, recently published, and they have recommended, among other suggestions, the appointment in each hospital of a lady superintendent to supervise the nursing; the efficient training of nurses and assistant-nurses (who shall not be expected to perform the duties of ward-maids); that better wages, food, clothing, and lodging should be provided for nurses, and that they should be permitted daily relaxation and periodical holidays. Also, that nurses ought not to be allowed to cook the patients' meals, and that in every ward a printed placard should be placed, intimating that any nurse, assistant-nurse, or ward-maid receiving money from the patients would be subject to instant dismissal. These suggestions, if adopted, appear to be calculated to remove to a considerable extent the defects in "nursing" of which complaint is made.

Dr. Veale's communication shall appear next week.

NEWSPAPER THERAPEUTICS.

To the Editor of THE LANCET.

SIR,—In your issue of Nov. 8th, under the above heading, you refer to an abstract, which appeared in the *Plymouth Mercury*, of an article I lately published in the *Medical Press and Circular* on Consumption. I quite agree with you that medical subjects should not be introduced into newspapers. I do not know, in this instance, from what quarter the *Medical Press and Circular* was sent (marked) to the *Plymouth Mercury*. I subsequently wrote to the proprietor of the *Plymouth Mercury*, who obliged me by inserting as follows:—"Dr. Pearse requests us 'to caution persons against using the drugs mentioned, except under the eye of their medical advisers.'" Yours faithfully,

Plymouth, Nov. 14th, 1879. WILLIAM H. PEARSE.

*** We gladly publish Dr. Pearse's letter, though we could wish that he had made it more apparent that he had expressed to the Editor of the offending paper his strong disapproval of such a use of articles on medical subjects.—ED. L.

THE COPLAND FUND.

THE following is the list of subscriptions at present received on behalf of the above Fund:—

	£	s.	d.		£	s.	d.
Dr. Stocker	10	0	0	H. Bullock, F.R.C.S.	2	2	0
Dr. A. Norton	10	10	0	T. R. Wheeler, F.R.C.S.	2	2	0
A. Norton, F.R.C.S.	5	5	0	Dr. Begley	2	0	0
"As ye would, so do ye unto them"	5	5	0	J. Roche Lynch, Esq.	2	2	0
Thos. Smith, F.R.C.S.	5	5	0	W. Ling, Esq., Brightlingsea	2	2	0
A Friend	5	5	0	Dr. Randall	1	1	0
H. Sewill, Esq.	3	3	0	Dr. Lavies	1	1	0
Dr. Semple	2	2	0	Dr. G. Savage	1	1	0
Dr. Burgess	2	2	0	Dr. Harvey Owen	1	1	0
Dr. Thorowgood	2	2	0	Henry Stear, Esq., Saffron Walden	1	1	0
Dr. Ward	2	2	0				
Dr. Fowler	2	2	0	J. T. Clover, F.R.C.S.	1	1	0
Dr. Taylor	2	2	0	Dr. G. C. Dale, Tooting	1	1	0
G. Bury, F.R.C.S.	2	2	0	G. Field, Esq.	1	1	0

Subscriptions may be forwarded to the Treasurer, Dr. Semple, 8, Torrington-square, W.C.; or to the Secretary, Arthur Norton, Esq., 6, Wimpole-street, Cavendish-square, W.

J. M. C.—It has been stated that an infusion of the Adonis vernalis exerts on the heart a similar action to that of digitalis, regulating the cardiac compensation in some forms of heart disturbance even when digitalis is ineffectual.

Observer writes that two more lady nurses of King's College Hospital have gone over to the Church of Rome.

Justitia.—The case is hard, and the hardest part of it is that there is no redress.

INDIAN PAY UNDER THE NEW WARRANT.

To the Editor of THE LANCET.

SIR,—Part of the new Warrant for the A.M.D. has at last been published, and, as you say, "it appears to be conceived in a liberal spirit," so far as it goes. But what about the *Indian pay*? Surely no one will go in for the A.M.D. until the scale of pay for India is definitely made known. By a letter signed "India" in your issue of last week, I see that the rupee is only worth at present 1*s.* 8*d.*, and it seems very probable that it will deteriorate more. In the same issue of THE LANCET, "A Bengal Civil Surgeon" says: "Let no one calculate Indian pay at par now; 100 rupees for years have not been worth more than £8, not always so much." Yet the Government coolly reckon 100 rupees as £10; for in the old Warrant the rate of pay is fixed "from 317 rupees (£31 14*s.*) to 433 rupees (£43 6*s.*) per month." Surely such disingenuity is only calculated to produce distrust and dissatisfaction. I sincerely hope it will not be persisted in, but that medical officers will receive proper remuneration for serving half their time in an unhealthy climate.

Truly yours,

Nov. 17th, 1879. GALEN.

Medicus.—As the law stands, it is illegal to practise in France without a French qualification. Special permissions have been granted in the past; but as the whole question is now under legislative consideration, an applicant would have but a small chance of success at present. Such permissions have always been difficult to obtain without great personal interest, and, even when granted, there is generally much delay. In any case the same fees as for the diploma (about £60) must be paid. A shorter way of obtaining the right to practise is to pass the minor examination, and so acquire the title of "Officier de Santé." This can be done at any of the Faculties, and is not a very difficult matter. Whichever course is adopted, a petition on stamped paper (French) should be made. If permission is sought to practise without undergoing examination, it must be sent in through the Foreign Affairs Department; but if the candidate wishes to be allowed to present himself for examination without delay, it must be addressed to the Minister of Public Instruction.

Dr. Walker.—The matter has, we see, been already noticed in the *Globe*.

WORKHOUSE INFIRMARIES AS FIELDS FOR MEDICAL STUDY.

To the Editor of THE LANCET.

SIR,—I should like to supplement Mr. Benton's well-timed observations upon this subject by a few words of approval, and I want to know how can this question receive practical consideration? The articles which appeared some years ago in THE LANCET brought about the grand reformation which everyone at that time thought so necessary. Mr. Gathorne Hardy's Act was the outcome undoubtedly of your spirited inquiry and exposure of the abuses, the abominations, and the vices which existed under the old workhouse infirmary régime. When I was the superintendent of the Sick Asylum at Highgate, my greatest trouble, amongst others of no mean order, was how to utilise to the utmost this splendid field for the investigation of diseased states of the body, and I tried to persuade the Board to allow me to set apart certain hours when a limited number of students may be admitted to study the manifold forms of disease with which I was surrounded. But my ideas were always received with ridicule, if not with contempt. I am afraid, Sir, we can hope for little encouragement from the boards of guardians in this matter, and I am also afraid that we cannot hope for help or even consideration from the Local Government Board, where medical opinion is now unfortunately at a discount. I consider the whole question, Sir, of such great importance that I would suggest with the most serious earnestness that it be brought before the consideration of the Medical Council. It is a question which the Medical Council, as the Medical Parliament, ought to consider. If the wards of these splendid institutions were thrown open every morning from ten till twelve o'clock in the morning, an enormous amount of good work could be accomplished, and the help which advanced students could at the same time render the medical officer for the benefit of the patients should not be forgotten. Yet I would strongly deprecate anything approaching eleemosynary labour on the part of students to decrease the paid labour of the constituted medical staff, or to interfere in any way with the regular working of the institution. It is for this reason that I would never support the appointment of a paid honorary staff of medical officers or consulting officers. The medical officer should be the head of the establishment, and should reign supreme; and if he is the right man in the right place (a quality, by the way, which medical degrees can never confer), the institution would not fail to prosper under his jurisdiction.

My object in troubling you with these few lines is to give the subject ventilation, and to hope that the Editor of THE LANCET will consider the subject worth the serious attention of the profession.

Yours &c.,

Old Burlington-street, Nov. 7th, 1879. THOS. STRETCH DOWSE.

COMBINED CORSET AND ABDOMINAL PAD.

THE corsets of Madame Cavé are the best we have seen, and will give perfect support. Ladies inclined to *embonpoint* may derive benefit from them, the belt keeping the figure down to its proper proportion, at the same time ensuring great comfort, as it cannot by any chance slip out of its place, as so many belts do, causing great inconvenience and sometimes pain. The corsets are manufactured by Messrs. Hatchman, of Wood-street, E.C.

Dr. James Weaver.—Yes, if short.

PROPOSED PUBLIC VACCINATORS' ASSOCIATION.

To the Editor of THE LANCET.

SIR,—Will you allow me to suggest the formation of a Public Vaccinators' Association for the purpose of the "issue of circulars to counteract the poison so actively disseminated by the anti-vaccinators; the obtaining of the Government award for *all cases* of primary vaccination, instead of those *only* under six months of age (thus making the public vaccinator suffer for the omission of the vaccination officer); the compulsion of revaccination"; &c. I regret I cannot undertake the formation of such an Association myself, but trust others will do so. A very small subscription will, I believe, amply repay.

I am, Sir, yours truly,

WM. WOODWARD, M.D.,

Nov. 10th, 1879. Public Vaccinator to the Worcester Union.

Sydenham.—1. A candidate for the post of public vaccinator must produce a certificate of proficiency in vaccination from an authorised teacher at one of the National Vaccinating Stations. This does not imply that he must submit himself to another course of vaccination if he has already undergone one, and does not possess his original certificate.—2. Consult the Catalogue of the Library of the Royal College of Surgeons.

Mr. J. J. Woodhouse.—The eggs probably lay dormant until hatched by the heat.

PARISH MIDWIFERY FEES AND DEATH REGISTRATION.

To the Editor of THE LANCET.

SIR,—Would you kindly inform me if there be any remedy for the following incongruities:—

1. There are two overseers appointed in this parish, besides a relieving officer, who resides at a distance. The overseers send me orders to attend some women in their confinements, whom they consider too poor to pay, and proper subjects otherwise to obtain an order. The guardians of the union or of this parish appoint their overseers, but will not pay for confinements ordered by them. The overseers themselves will not pay, though I have informed them they can be refunded from the parish rates. Whom can I force to pay, as the law allows me 10s. for every uncomplicated confinement? And am I justified in refusing to attend, in the meantime, further orders given by their overseers?

2. There is a person in this district now who is neither qualified nor registered, and who was at one time an unqualified assistant. He has started as a private practitioner, and when a death occurs under his care, he writes out a statement as to what he considers the cause of death. This is accepted as sufficient by the registrar; the death is registered, and an order given for burial. Now, any man who would pretend to know medicine might do the same, since his written statement as to the cause of death is received and accepted. This is surely a very absurd condition of things, seeing, too, that the law is so very exacting on registered men in their several duties.

I enclose my card, and remain, Yours &c.,

November, 1879. DISGUST.

*** 1. The district medical officer is bound to attend upon a *written* order from an overseer, and the guardians are bound to pay the authorised fee for attendance under such an order. But our correspondent would do well to communicate the facts to the Local Government Board's inspector for his district, and act under his advice, or to state the circumstances to the Secretary of the Local Government Board.—2. Is our correspondent quite sure that the certificate of the person referred to is accepted by the registrar, and the cause of death entered as if it had been certified by a medical man? If a registrar is required to record a death for which no medical certificate is produced, he cannot refuse; and if a statement of the cause of death is produced from a person who is not a legally qualified practitioner, the registrar may accept the statement of the cause, but may not register it as *duly certified*. If, however, the registrar habitually accepts statements of this sort so as to frustrate largely the provisions of the law in respect to medical certificates of the cause of death, the facts should be communicated to the Registrar-General.—ED. L.

Junior.—There is no royal road to safe dispensing; without such a knowledge of drugs and their compounds as can only be obtained by a systematic study of materia medica and pharmacy. Meanwhile handbooks for the dispensary abound.

Niles is thanked.

Dr. David J. Brakenridge.—The MS. and woodcuts have been received. The lecture will be inserted in an early number.

Mr. F. W. Merry.—We are glad to hear from so old and esteemed a subscriber.

THE DISCUSSION ON ANTISEPTICS AT THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

To the Editor of THE LANCET.

SIR,—In your report of this discussion there are a few unimportant inaccuracies, for two of which I think it necessary to make corrections. I did not allude to M. Kœberlé as the "late M. Kœberlé," as I have every reason to believe he is alive and well. I also did not say that we had done eighty or ninety ovariotomies at our new hospital, but a larger number, the exact extent of which I could not charge my memory with, as I had not come prepared to discuss the subject. In due time the exact figures will be published. Yours &c.,

Birmingham, Nov. 15th, 1879. LAWSON TAIT.

To the Editor of THE LANCET.

SIR,—In the discussion on Mr. Lawson Tait's case at the Royal Medical and Chirurgical Society, published in your last issue, he said: "The rule that the placenta should not be removed had been laid down by the late M. Kœberlé." It is not generally known that our countryman, Dr. M. Ryan, laid down the same rule in 1840. He says: "The placenta should be left attached in extra-uterine pregnancy, lest fatal hæmorrhage ensue" (Manual of Midwifery, p. 235).

I am, Sir, faithfully yours,

Upper Wimpole-street, W., Nov. 1879. J. H. AVELING, M.D.

AN EXPLANATION.

To the Editor of THE LANCET.

SIR,—THE LANCET of October 18th, in alluding to a recent controversy between Dr. Otis and myself on the subject of spasmodic stricture of the urethra, contains a statement which is incorrect, and which is founded upon an error unintentionally committed by me in quoting, as having been reported by Dr. Otis, two cases which, as he stated in a subsequent paper, were not the cases he had in mind when making his report. My mistake was due to an omission, on the part of Dr. Otis, to specify distinctly the cases to which he intended to refer, and also to some confusion in the records contained in the case-books of the New York Hospital.

Being desirous of relieving Dr. Otis from an imputation which is unjust, and for which I feel I am responsible, I beg you to insert this note of explanation and apology, and oblige,

Your obedient servant,

New York, Nov. 3rd, 1879. H. B. SANDS.

IVORY-DUST AS DIET.

To the Editor of THE LANCET.

SIR,—I should be glad to know if any of your numerous readers have thoroughly tried, and, if so, found any good results from, the use of ivory-dust as an adjunct to the food of weakly children and for convalescents.

Yours respectfully,

Preston, Nov. 18th, 1879. J. C., Ch., &c.

IT is requested that provincial papers sent for the information of the Editor may be marked so as to direct attention to the medical or sanitary matters it is desired to notice.

LETTERS not answered in the current week will be dealt with in the next issue of THE LANCET.

COMMUNICATIONS, LETTERS, &c., have been received from—Dr. Sturges, London; Dr. Greenhow, London; Mr. Adams, London; Dr. Meryon, Mayfair; Dr. Sutherland, Whitehall; Professor McCall Anderson; Mr. Lawson Tait, Birmingham; Mr. Weaver, Longton; Mr. A. Pain, Walworth; Dr. Graham, London; Mr. Nicholls, Croydon; Mr. Lupton, Stratford-on-Avon; Mr. Russell, Kilburn; Dr. Jamieson, Edinburgh; Mr. Wharton Jones; Mr. Keelain, Devonport; Mr. Cormac, Liverpool; Dr. Anderson, Cramlington; Mrs. Burn, London; Mr. Gifford, Egham; Dr. Brooks, Dixon, U.S.A.; Dr. Pearse, Plymouth; Mr. R. C. Lucas, London; Mr. Graham, Reading; Mr. Vance, Plaistow; Mr. Weekes, York; Dr. Veale, Netley; Dr. Lloyd, London; Dr. Sands, New York; Messrs. Waite and Kite, Cheltenham; Mr. Constable, Cambridge; Mr. George, Whitchurch; Mr. J. Seaman, London; Mr. Leeming, Kendal; Surgeon-Major Johnstone, Dublin; Mr. Collins, Wednesbury; Mr. Freeman, Brighton; Messrs. Ingram and Son, Hackney; Mr. Walker, Aberdeen; Dr. Watkin, Putney; Dr. Henna, London; Dr. Ross, Alderney; Captain Allsopp, London; Mr. Eskell, London; Dr. H. Thompson, London; Mr. Wobel, Bromsgrove; Mr. Stratton, Kidderminster; Mr. Thompson, Chelmsford; Dr. Drummond, Newcastle-on-Tyne; Messrs. Brand and Co., London; Mr. Budd, Edinburgh; Mr. Hughes, Woodbridge; Mr. G. Holmes, London; Mr. Richard, Dumbarton; Mr. Burdett, Greenwich; Mr. J. Parnell, London; Mr. Manning, Gladesville, N.S.W.; Mr. Edmunds, Pontypool; Mr. Coplestone, Chester; Dr. Allison, Bridlington; Dr. Thomas, Glasgow; Mr. Millar, Callen; Mr. Lattey, Southam; Mr. Meadows, Hastings; Dr. Jacob, Leeds; Mr. Kesteven, Wellington, New Zealand; Dr. Barnes, Carlisle; Mr. Garrod, Kington; Mr. Woodhouse, Fulham; Mr. Austin, London; Mr. Roberts, Cominsby; Mr. Duke, Sydenham; Mr. Marsh, London; Mr. Walters, Reading; Mr. Letcher, Cinderford; Mr. Rocking, Hessle; Beta; Sanitas; Galen; J. C.; An Occasional Correspondent, Durban; S. W. J.; Miles; Medicus, Huntley; Spero Meliora; Mère; Pineal Gland; Tongo-Ni; Enquirer; M.R.C.P.; A Subscriber; Rex; &c. &c.

LETTERS, *each with enclosure*, are also acknowledged from — Dr. Lloyd, London; Dr. Kennedy, Dublin; Dr. Parsons, Warwick; Mr. Jollye, Donington; Messrs. Jackson and Parker, Louth; Mr. Wright, Accrington; Mr. Plumbe, Sutton-in-Ashfield; Mr. England, Cork; Dr. Wilson, Yoxall; Mr. M'Dermott; Messrs. A. and C. Black, Edinburgh; Messrs. Paternoster and Hales, Hitchin; Medicus, Preston; R., Pickering; Fides; F. H.; York; G., Cork; P. H.; Medicus, Liverpool; W. R.; Delta; M.D., Surbiton; Delta, Stoke-on-Trent; Nemo; H. R.; Beta, Stepney; N., Bridgewater; R. A., Sheffield; Fidilis, Exeter; A. B., Haslemere; M.D.

Brighton Guardian, Daylight, Pioneer, Eastern Morning News, Bromsgrove Weekly Independent, Richmond and Twickenham Times, Halifax Courier, Daily Express, Weekly Independent, Pontypridd District Herald, Night and Day, Supplement to the Bristol Times, Temperance Record, Dover Telegraph, Birmingham Daily Gazette, Birkenhead News, Leicester Daily Mercury, Weekly Argus, Hackney Gazette, &c., have been received.

Medical Diary for the ensuing Week.

Monday, Nov. 24.

ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS. — Operations, 10½ A.M. each day, and at the same hour.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1½ P.M. each day, and at the same hour.
ST. MARK'S HOSPITAL.—Operations, 2 P.M.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
ROYAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
MEDICAL SOCIETY OF LONDON.—8½ P.M. Dr. Lownds: "Unusual Respiration in a Case of Dilated Aorta."—Dr. Andrew Clark, "On Renal Inadequacy."

Tuesday, Nov. 25.

ST. MARK'S HOSPITAL.—Operations, 9 A.M.
GUY'S HOSPITAL.—Operations, 1½ P.M., and on Friday at the same hour.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
NATIONAL ORTHOPÆDIC HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 3 P.M.
ROYAL MEDICAL AND CHIRURGICAL SOCIETY.—8½ P.M. Mr. James F. West, of Birmingham, "On Trephining for Traumatic Epilepsy."—Mr. Henry Morris, "On two Cases of Carcinoma of the Breast, preceded by so-called Eczema of the Nipple and Areola."

Wednesday, Nov. 26.

MIDDLESEX HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1½ P.M., and on Saturday at the same hour.
ST. THOMAS'S HOSPITAL. — Operations, 1½ P.M., and on Saturday at the same hour.
KING'S COLLEGE HOSPITAL. — Operations, 2 P.M., and on Saturday at 1 P.M.
LONDON HOSPITAL.—Operations, 2 P.M., and on Thursday and Saturday at the same hour.
GREAT NORTHERN HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL. — Operations, 2 P.M., and on Saturday at the same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN. — Operations, 2½ P.M.
HUNTERIAN SOCIETY.—8 P.M. Mr. Rivington, "On some Cases of Aneurism."—Dr. Stephen Mackenzie, "On Tumours of the Cerebellum."

Thursday, Nov. 27.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—1½ P.M. Surgical Consultations.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL. — Operations, 2 P.M., and on Friday at the same hour.

Friday, Nov. 28.

ST. GEORGE'S HOSPITAL.—Ophthalmic Operations, 1½ P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 2 P.M.
ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.
QUEKETT MICROSCOPICAL CLUB.—8 P.M. Dr. T. Spencer Cobbold, "On the Fertilisation of certain Flowering Plants."
CLINICAL SOCIETY OF LONDON.—8½ P.M. Mr. W. J. Tyson (Folkestone), "On a Case of Traumatic Aneurism of the Scalp."—Mr. Croft, "On a Case of Excision of both Hip-joints for Symmetrical Femoral Necrosis; Operations Antiseptic; result successful."—Dr. Goodhart, "On a Case of Rheumatism treated by Salicylate of Soda, terminating fatally."

Saturday, Nov. 29.

ROYAL FREE HOSPITAL.—Operations, 2 P.M.

NOTICE.

In consequence of THE LANCET being frequently detained by the Post Office when posted for places abroad *more than eight days after* publication, subscribers and others are reminded that such copies can be forwarded only as book packets, and *prepaid* as such.

TERMS OF SUBSCRIPTION TO THE LANCET.

POST FREE TO ANY PART OF THE UNITED KINGDOM.

One Year.....£1 12 6 | Six Months £0 16 3

TO THE COLONIES AND INDIA.

One Year £1 14 8

Post Office Orders in payment should be addressed to JOHN CROFT, THE LANCET Office, 423, Strand, London, and made payable to him at the Post Office, Charing-cross.

TERMS FOR ADVERTISING IN THE LANCET.

For 7 lines and under.... £0 4 6 | For half a page £2 12 6
For every additional line. 0 0 6 | For a page 5 0 0

The average number of words in a line is eleven.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

N.B.—All letters relating to Subscriptions or Advertisements should be addressed to the Publisher.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post-offices letters addressed to initials only.

Agent for the Advertising Department in France—
M. BERTHIER, 104, Boulevard St. Germain, Paris.